

# THE CULTIVATOR:

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

"AGRICULTURE, AT ONCE THE CAUSE AND EVIDENCE OF CIVILIZATION."

CULT. VOL. VII—No. 10.

ALBANY, N. Y. OCTOBER, 1840.

CULT. AND FAR. VOL. I—No. 10.

PUBLISHED MONTHLY,  
BY JESSE BUEL & CO. PROPRIETORS,  
Office No. 7 Exchange, Second Floor.

TERMS—ONE DOLLAR per annum—*Six copies* for \$5—  
the money to be remitted in advance, free of postage. A  
commission of 20 per cent will be allowed to Agents who ob-  
tain 25 or more subscribers, and 25 per cent to those who  
obtain 100 or more. All subscriptions to commence with a  
volume.

## THE CULTIVATOR.

WILLIS GAYLORD & LUTHER TUCKER, EDITORS.

### AMONG THE FARMERS—No. 2.

CENTRAL NEW-YORK—SKANEATELES.

In no part of the United States perhaps, can there be found a district more capable of the highest state of improved agriculture, or better adapted to the introduction and display of correct taste in rural embellishment, than the country of the Lakes in Central New-York, embracing that beautiful chain reaching from the Oneida and Cazenovia, to the Conesus of the Genesee Valley. Lying immediately on, or but slightly elevated above the limestone zone that makes so distinguishing a feature in the Agricultural Geology of this State, the vicinity of these lakes offers to the agriculturist some of the best soils in the world, and to the man of leisure and taste, a choice of residences, which for purity of air and variety and beauty of landscape, can scarcely be rivaled. These advantages have not been overlooked or unappreciated; and the traveler, as he views the rich and well cultivated fields, and respectable and comfortable dwellings, with here and there such as mark the abode of superior wealth and refinement, cannot but feel an emotion of surprise, when he learns or remembers, that all this is the work of only thirty or forty years.

Skaneateles holds, deservedly we think, a high rank among this cluster of lakes, for the beauty and salubrity of its waters, and the general fertility of its shores, the northern part particularly. There is but little of the wild or the sublime in the landscape, but very much of the rich, quiet, and the beautiful; and the same remark will be true of the other lakes in the district. On the shores of the northern half of the lake, the pastures, meadows, plowed fields and woodlands, slope gently to the water's edge, and in a still summer's day, village, and cottage, and grove, and the green pastures with their flocks and herds, are multiplied and reflected from its surface as from a mirror. Farther south, high hills press upon the lake; their steep sides clothed with evergreen woods, and giving to the deep dell in which the waters seem to be enclosed, new features and new beauties.

To the eye of the farmer, however, the agricultural prospects and processes of any region, will form the principal point of attraction, and it was in this light we viewed it, as, a few weeks since, we had the pleasure of calling on some of our farming friends in that vicinity.

THE CROPS.—The grain crops had been cut and secured with the exception of perhaps a few pieces of oats; and were good both in quality and quantity. The wheat crop could not be considered an extravagant one, but it was better than the last year's, and the berry of superior quality. Instances of failure in this crop, had indeed occurred, but they were rare. The earliest ripened wheat had proved the best; while that which was late, or had been heavily manured directly for that crop, had suffered more or less from mildew. In the latter case, and this was particularly the case with spring wheat, the growth of straw was so great as to cause the crop to lodge before the filling of the kernel was complete, and consequently nearly destroy the grain.

WHEAT CULTURE.—The practice of early sowing is getting into favor with the Skaneateles farmers, as they think early sown grain resists the frosts of winter better than that which is later, and that by ripening somewhat earlier, it is also more secure against blight. Although it was in August, many farmers had completed their sowing, and great numbers of others we saw engaged in putting in their seed. For wheat, a thorough summer fallow is preferred, as rendering the earth more friable, and cleaning it from foul stuff, so detrimental to crops. We observed one or two instances where a fine surface and seed bed was given, by turning over a clean smooth turf, rolling it level, and then harrowing the surface until it was sufficiently mellow and deep for seed, but without disturbing the clod in the least. In some cases, such a course may produce good wheat; but there is very little land sufficiently smooth and clean for this process, and it does not have the tendency to deepen and fertilize the soil, which more thorough plowing does. The doctrine of transmutation of wheat into chess, has not many advocates among the enlightened farmers of Skaneateles; and as they pay considerable attention to their seed to free it from chess, as a consequence

they are usually very little troubled with it. There are some, however, who have fears as to the effect of the barberry bush on wheat, not having entirely eradicated the ancient but unfounded prejudice, that the blight is caused by this bush. Quite a number of years since, a severe blight occurred very generally in Western New-York. At Skaneateles it was attributed to some barberry bushes in some of the gardens, and to quiet the public feeling, the trees were eradicated. The wheat crop ceased to be much affected in a year or two, and this fact had a tendency to confirm some farmers in their previous sentiments, and was adduced by the late Judge Bradley in his controversy with David Thomas on this subject, as proof that the barberry did cause blight. The inaccuracy of this supposition is best shown by the fact, that in those seasons the blight was very extensive in the western district, as it has been this year in northern Indiana and Illinois. We had, the same season in which the Skaneateles farmers suffered so much, a field of fifteen acres ruined by blight, and there was not a barberry bush nearer than two miles. The cause is doubtless to be traced to some atmospheric agency, the nature of which has not yet been explained.

CATTLE.—The improvement of stock has evidently been a prominent object with the farmers of Skaneateles; and by well directed persevering efforts, they have so far succeeded as to have laid a broad foundation for the future. There are in the vicinity several fine Short Horns, and bulls and cows of the best breeds have been introduced by several public spirited farmers. The reputation of the Short Horns for milk, is here well sustained, and we think it doubtful whether any others can compete with them in this respect. Cattle, however, that take on flesh with the rapidity of the Short Horns, or yield such quantities of milk, cannot succeed well on such pastures, or winter fare, as our common breeds usually get. There is another error too, into which we think many farmers fall in their efforts to improve their stock, and we think the influence of this error can be traced to some extent about Skaneateles. A farmer has a good cow of the common breed, and puts her to a full blood Short Horn. The calf is of course a good one, but the error consists in using such half bloods to breed from. Experience in England shows that this course is not a good one, and that such cattle speedily deteriorate. Constant recurrence to the original pure improved race, and judicious selection among the progeny, can alone insure improvement, where any cross or mixture of blood is permitted.

SWINE.—We should not imagine that as much attention has been paid to the breeding of swine as of cattle, near Skaneateles. Some good hogs were seen, but none that we thought would bear a comparison with some of the improved breeds that have been introduced into the country within a few years. There are few animals, in which the difference of profit between keeping good and poor ones, is more sensibly felt in the pockets of the farmer, than in swine; and we have no doubt they would greatly consult their interest by attention to this point. Let no farmer, however, imagine if he gets Short Horn cattle, Berkshire pigs, or Leicester sheep, that he is going to have fat beef, pork, or mutton, without good feed; if he should have such dreams, experience will soon awaken him. The question is, *which will give the most profit from a given quantity of food?* Not, *which will live without any?*

SHEEP.—The farmers in the vicinity of Skaneateles have large numbers of sheep, and the amount of wool produced in the town for sale or manufacture is great. Some of the best of the imported breeds of sheep, as the Leicester and South Down have been introduced, as being well adapted to the common farmer; but by far the greatest proportion of the flocks are grades of the Merino or Saxon. Some superior flocks of both these kinds, are to be seen at Skaneateles, and as our country as well as others must rely on these two varieties for their fine wool, it is desirable that attention should still be paid to preserving the breeds pure. The best kind of sheep for the small farmer, one who raises no more wool than is required for his own use, and uses some mutton, is, we think, not satisfactorily determined. It is necessary that hardiness should be united with wool of medium fineness, and flesh of good flavor, and whether any distinct breed is to be found possessing these qualities, or whether one is yet to be produced by crossing, time must determine. Present appearances would indicate that the South Down approaches to the point required for the ordinary farmer; and for the production of wool of the best quality, (the very finest excepted) we are disposed to think highly of the cross of the South Down and Saxon, recommended in the *Cultivator*, by H. S. RANDALL, Esq. Some farmers (we may mention the Messrs. THORNE) in the town of Skaneateles, own from 1,000 to 2,000 each of Saxon and Merino, or grades of these. The present depressed state of the wool trade, is not very encouraging to the wool grower, but as that is one of the articles with which it is impossible to dispense, remunerating prices may always be reasonably anticipated.

Roots.—As a natural consequence, in any district where an improved agriculture has made much progress, considerable attention is given to the culture of roots by the thrifty farmers of Skaneateles. We were told that not as much land had been sown with ruta baga this year as formerly; the impression prevailing to some extent, that our climate is not exactly adapted to the growth of that root, it sometimes suffering from the heat and dryness of our summers, and particularly so, on soils that are not of considerable depth. That the turnip flourishes best in a moist climate and moderate temperature in certain; but we think when the soil is of the right kind, seasons of extraordinary dryness and heat excepted, this root may be profitably cultivated in this country. The sugar beet has by many been adopted, in room of the turnip, and that root, judging from some examples where both had been sown in the same field, will endure heat and drought better than the ruta baga. We have heard many complaints the present season respecting the failure of beet seed. In some cases the seed may have been bad, but we think the failures have often occurred from injudicious planting. Mr. GAYLORD, who has a fine field of the carrot and sugar beet, informed us, that a considerable portion of his beet seed failed when sown without preparation, but when soaked before sowing, scarcely a single seed failed. Some have recommended to have boiling water poured over the beet seed; but this would be a dangerous experiment; steeping in warm water is better, and no risk is incurred. We know of no seed, the locust, excepted, in which the heat of boiling water is not more or less injurious.

FARM BUILDINGS.—Much attention has been paid by the Skaneateles farmers, to the arrangement and condition of their farm buildings. A house well finished and furnished, may be very comfortable and desirable, but does not of itself furnish so sure a criterion of farming prosperity and good taste in agricultural matters, as does the kind and state of the barns and other out houses. Much is depending on the arrangement of the yards, wagon, and tool houses, hop pens, and places for cooking and feeding food. The barn of Mr. SILAS GAYLORD, President of the Skaneateles Agricultural Society, is in many respects, one of the most convenient and well arranged buildings for the farm, we have ever seen. It is one hundred feet in length, and with its long ranges of stalls for feeding cattle, its stables, its dry capacious cellar for roots, its extensive underground divisions for cows, calves or sheep, during stormy weather, or in the spring of the year, and its well ventilated yards and sheds, show an attention to the safety and comfort of an extensive and valuable stock, as necessary as it is worthy of imitation. The "let alone system," or allowing animals to shirk for themselves at all seasons and in all weathers, does not seem to find many advocates about Skaneateles, although there are some farms still sadly deficient in the necessary buildings, and where the want appears more apparent, from others being so well provided around them. In the construction and arrangement of the farm houses around the Lake, much good taste has been exhibited, and the exercise of this quality is becoming more and more apparent. For the ordinary farmer, very expensive, or very spacious buildings, are not required. They should be convenient and neat, rather than extravagant and showy; but there are few places in the country that furnish more pleasant and delightful retreats for the man of wealth and leisure, than the vicinity of the lakes; and in the construction of their villas, such men may consult their wants or their wealth. The neat cottages and splendid dwellings that look out from their groves and orchards and gardens on the beautiful lake, form not one of the least attractive features of the landscape.

FRUIT AND ORNAMENTAL TREES.—Few districts can show more valuable orcharding, or finer fruit gardens, than the neighborhood of Skaneateles. The apple, pear, cherry, and quince, are abundant; grapes of the best varieties suited to the location, are found in many gardens, and some very good specimens of the peach are occasionally seen. The latter fruit, and the kindred kinds, do not, however, thrive as well as on the shores of the Ontario. A feature of the place which strikes the observer very agreeably, is the very general planting out of ornamental trees in the yards and by the road side. The tree which seems to obtain the preference, is the locust, which grows well and rapidly, and several large nurseries of which, are near the village. The useless poplar has mostly disappeared, and its place has been supplied by the locust, maple, or other trees of decided utility, and far more ornamental. The practice, and a very commendable one it is too, we think, of filling up the vacancies in wood lots as they occur, with the locust, prevails to some extent, and the utility of this course, should the tree succeed as it now promises, will be yearly more apparent.

MANURES.—The Flemish maxim, without clover no cattle; without cattle no manure; without manure, no corn or wheat—is getting to be more generally understood and practiced upon than formerly. The propriety of using ma-

nure for root or corn crops, rather than grain crops, and allowing clover to alternate with these, is denied by few; and the consequence has been, that the quantity of manure has increased with the skill of the cultivation and the perfection of the rotation. Instead of the manure being spread on permanent grass lands, it is now given to the tilled ones, and covered after its application, with as little delay as possible. In one of the yards of Mr. Gaylord, we observed several long mounds made of alternate layers of earth and manure, intended for compost. With the exception of one, they were thickly covered on the surface with luxuriant weeds, and on inquiring the cause of the exemption, were told that none was known, unless it was a quantity of lime which was thrown in with the earth of that pile, and this was doubtless the true solution. Did the caustic action of the lime destroy the vitality of the seeds of weeds in the soil? Or, did the greater heat and more active fermentation induced by the lime, produce the same result?

In any place where agriculture is found in as advanced a state as at Skaneateles, it is reasonable to infer that the population avail themselves liberally of the best sources of information on the subject which constitutes their great employment; and such we have the best reason to know, is the fact. There is scarce an agricultural publication of note in the country, which is not read here, and the habits of social intercourse which exist among the most influential farmers, have a direct tendency to render any such useful knowledge generally available. There is probably not a town in the state with the same population, which receives a greater number of farming journals than this; and the condition of their agriculture speaks volumes in favor of the practice. Such examples show that with a good soil, an industrious population, and labor directed by intelligence, much of our country may be converted into a garden, and the profits as well as the productiveness doubled.

#### COWS AND MILK.

Every farmer or dairyman is aware that there is a vast difference in the quantity and the quality of milk given by different cows, yet this variation is made by very few the basis of any calculation as to the actual profit or loss in keeping such animals. As a general rule, it must be admitted that cows that yield a large quantity of milk, require more and better feed than those which yield less, in order to maintain the same flesh; but this is a point much depending on the breed, and its constitutional qualities. The average of the best common dairy cows, will not for six months, exceed ten quarts per day, while numerous instances are on record, of cows which have averaged more than double this quantity for the same period. We very much question whether a majority of our cows produce half a pound of butter a day for the same period of time; while the instances are not few, in which cows have yielded from ten to twelve pounds per week, and some have much exceeded this, as the examples we shall give will show. We think if the vast difference in profit between a good and a poor cow was duly considered, much more pains would be taken to produce and rear such animals and breeds as would best serve the purposes of the dairy or the farmer. There is no propriety in the farmer's keeping some half a dozen inferior cows to devour his pasture in the summer, and empty his barns in winter, to make butter for his family, when half the number of good animals will do it much better, and enable him to dispose of the extra fodder the others would consume, or add to his other stock in the same proportion.

Very few instances have been given where the quantity of milk from a number of cows has been determined with accuracy. Mr. Aiton, from the record of several years with a herd of the best Kyloes or North of England cows, gives the following result, in which confidence may be placed:

First	50 days,	24 quarts per day,	1,200.
Second	" 20 "	"	1,000.
Third	" 14 "	"	700.
Fourth	" 8 "	"	400.
Fifth	" 8 "	"	400.
Sixth	" 4 "	"	300.

being 4,000 quarts to each cow, or an average of 13 quarts for 300 days.

In Dickson's Survey of Lancashire, the quantity of milk produced by five short horned cows of the ordinary, not improved breed, in the summer at pasture, and winter at hay and turneps, is stated as follows:

One which did not go dry at all,	4,857 quarts.
One dry eight weeks,	3,985 "
One dry six weeks,	3,987 "
One dry "	3,695 "
One dry eighteen weeks,	3,333 "

A large dairy on the late Mr. Curwen's farm, gave on an average of four years, 3,700 quarts to each cow, but the average in Lancashire generally, is stated at between 8 and 9 quarts. Some of the county reports, in Transactions of the Agricultural Society, average the quantity as below:

Devonshire,	12
Cheshire,	8
Lancashire,	8 to 9

Mr. Wm. Cram's, in Sussex, had a cow that in four years from 1805 to 1809, gave 23,549 quarts of milk, producing 2,132 pounds of butter; probably the greatest instance of continued productiveness on record. Since the improved Short Horns have become so well known, occasional examples of still greater amounts of butter or milk for a short time, have been furnished. Thus the

Rev. Mr. Hacket, near Newark, Eng. had a cow which produced 19 pounds of butter in a week, though the average of the cows in that vicinity did not exceed six pounds per week. A cow of Mr. Calvert produced 373 pounds of butter in 32 weeks; and for 20 weeks averaged 20 quarts of milk a day. The Yorkshire cows have in many instances been remarkable for the quantity of milk produced by them; many, during the height of the season, yielding 30 quarts a day, and instances have occurred of reaching 36 quarts.

The instances of uncommon productiveness both in milk and butter, among the cows of this country, are very numerous. These instances of great yields are more common among the improved breeds of imported stock, or such as have been derived from them, by crosses with the native stock of cattle, than among the old stock alone. Thus Col. Jacques' Cream Pot breed, the result of a cross between the Durham bull and a native cow, has produced butter at the rate of seventeen pounds in a week. We noticed not long since in the Pennsylvania Inquirer, a statement of Mr. Gowens' Short Horn cow "Dairy Maid," which yielded 334 quarts of milk per day for a week; but the most remarkable instance of productiveness in a cow, all things considered, we have ever noticed, is found in the following statement of Mr. S. Canby, of Woodside, Delaware, furnished for the Delaware Journal. Mr. Canby's cow is called Blossom, and is from the excellent stock of C. H. Hall, Esq. of New-York.

After mentioning *Dairy Maid*, Mr. C. adds:—

"I concluded to try my cow *Blossom*, a statement of whose milking for one week you will find below, and by which you will perceive she averaged for the week over 35 quarts per day, and yielded 13½ pounds of well worked butter. \*\* My *dairy maid* is firm in the belief that at a cooler season of the year, or with a spring house, the cream she had from *Blossom* would have yielded 15 or 16 pounds of butter.

"Uncommon as this produce may be, I do not consider it more so than the fact of her never having been dry since she had her first calf, more than two years ago, and in the space of 25 months, has produced five living calves, viz.—on the 5th of April, 1838, she had her first calf (*Delaware*); on the 4th of July, 1839, she had twins, (*Liberty and Independence*); and on the 16th of May, 1840, she had twins again, (*Romeo and Juliet*); and I think I can safely say, that during the whole of that time she has averaged full 20 quarts of milk per day; she gave 25 quarts per day with her first calf, and made nearly 12 pounds of butter per week."

Mr. Canby in both years tried to dry *Blossom* before calving, but found it impossible. If Mr. Canby is right in his estimate of the average daily quantity of *Blossom's* milk, she greatly exceeds any other cow on record in product. The average of Mr. Cram's cow, which has been considered at the head, was 5,837 quarts per annum, while *Blossom's* is 7,300. The average yearly product in butter of Mr. Cram's cow was 533 pounds, and that of *Blossom*, as estimated by Mr. Canby, 624 pounds.

It is not to be expected that the average of the cows in any country can be made to equal these extraordinary yields of milk and butter; yet when we see what has been done by Col. Jacques, and to what perfection care and judicious selection has brought other breeds of domestic animals, we can conceive no good reason why our dairies should not have their profits vastly increased by improvements in the milking qualities of the animals composing them.

#### PROSPECTS OF THE SILK CULTURE.

From every part of the country we are receiving the most gratifying intelligence respecting the success of the experiments instituted by such numbers the present season in feeding worms. The multicaulis fever ran its course last year, and though multitudes must rue the result of their speculations, yet the excitement spread the tree far and wide, and directed the attention of thousands to the silk business, that would otherwise perhaps never have taken any interest in it. The experiments made last year showed there was nothing mysterious in the production of silk; that in our fine climate the difficulties encountered in other countries are unknown; and that where the mulberry can be grown or had, and room for feeding obtained, the formation of the cocoon and silk of the best quality for manufacturing, is as certain as the growth of grass or corn. In this, as in every other business, there will be some disappointments. Those who expect to make themselves rich the first year; those who enter largely upon feeding worms without experience; those who hatch thousands or millions of worms, and undertake to feed them, while they have foliage for not more than one-fourth the number, will belong to this class.

One of the most serious obstacles in the way, has been the retardation of the hatching of the worm from the egg, until the foliage would be sufficiently abundant for their use; and this has been particularly the case where the tender varieties of the mulberry have been relied upon, as it was necessary for the shoots to spring and the foliage to grow, before feeding could commence. At the south, where the Chinese mulberries do not require protection, and the foliage is ready for the worm at the earliest season, this difficulty of course is not apparent; but at the north, it has proved a serious one. We are pleased to learn from the Farmer's Register, that Mr. Pleasants has been making such experiments in preventing their hatching, as will enable him to have complete control over his worms, and regulate the number by the foliage at command. He does this by means of his ice house, which in other hands, has hitherto been found a very ineffectual and uncertain method of retardation.

Where the multicaulis has been mainly relied upon for feeding, (and this, the Canton, and Broussa appear the greatest favorites,) it has been found advisable to have some of the common white mulberry to commence the feeding with, to be followed by the easier gathered Chinese, when the quantity of food required is increased by the greater age of the worms. This method was adopted by Miss Rapp, of Harmony, who made the beautiful silks exhibited last year at Washington. We venture to predict that the amount of raw silk grown this year in the United States, will greatly exceed the expectations of the firmest friends of the culture in the country; and we should not be surprised if such specimens of raw silk and manufactured articles should be exhibited at the Fair of the American Institute, as to convince the most incredulous of the deep root the silk culture has taken among us, and our ability to render ourselves independent of other countries for this important article.

#### IRRIGATION.

Irrigation or watering lands is practiced for two purposes; the first for supplying the roots of plants with moisture, when suffering from drought; and the second to supply the soil with various matters, animal, vegetable and mineral, which abound in most waters that have passed over any considerable space of the earth's surface. There is a very wide difference, however, in the value of water for performing the latter kind of irrigation; some containing much greater quantities of fertilizing matter than others. Thus streams flowing through alluvial sections, always contain more matter that will be deposited by rest, than those running through primitive sections; and it is owing to this cause, that some streams are so much more effective in irrigation than others. Some streams, indeed, are unfit for irrigation in any form, they containing some of the minerals in one form or another, that render them fatal to plants. Ponds that have no outlets for the streams they receive, but depend on evaporation or absorption for the disposal of their waters, always abound in salts or other fertilizing matters, and experience shows that such are the most active on lands. This will appear probable when it is recollect that such bodies of water, by the gradual accumulation of such ingredients, usually become salt, of which there are multitudes of examples on the globe. Slow moving streams are also richer in their deposits than rapid ones; thus the Nile, the Po, and the Mississippi, contain more than the Elbe, the Susquehanna, or the St. Lawrence.

We have known no instances of an analysis of river water in this country to test its properties in this respect; but that many of our streams abound in the qualities most valuable for irrigation, is proved by the abundant deposits from their waters, and the fertilizing results of an annual or even occasional overflow. Many of the waters of Europe have been analyzed, and from them we may in some measure form an estimate of the substances most effective in irrigation. It must be remembered, however, that the quantity of organic, and even mineral substances suspended in river water, differs greatly in different seasons of the year.

Dr. Thomson found in the waters of the Clyde:

" Common salt, .....	0.369
Muriate of magnesia,.....	0.305
Sulphate of soda, (Glauber salt) .....	0.114
Carbonate of lime,.....	0.394
Silica, (flint earth).....	0.118"

or a little more than 1/8 part.

Dr. Bastock found in the Thames water:

" Organic matters, .....	0.07
Carbonate of lime, .....	1.53
Sulphate of lime, .....	0.15
Muriate of soda, .....	0.02"

or about one and three-four parts.

The Itchen, in Hampshire in England, has long been celebrated for the fertilizing power of its waters, and on its banks are some of the finest water meadows of the kingdom. Mr. Johnson made an analysis of its waters, and after all the mechanically suspended particles had subsided, the result of the analysis was as follows:—

" Organic matters, .....	0.02
Carbonate of lime, .....	1.89
Sulphate of lime, (Gypsum) .....	0.72
Muriate of soda, (Common salt) .....	0.01"

A knowledge of the substances contained in water, will materially aid in showing us why they should operate advantageously when applied in irrigation. A large proportion of all our waters are *hard*, that is, they contain some of the salts of lime, and always one of these is gypsum. Every farmer knows the value of this substance spread on his grasses, into which it enters as a component part, particularly in the case of clover. According to Prof. Davy, "calculating that one part of sulphate of lime, (gypsum,) is contained in every 2,000 parts of water, [and the streams of Western New-York far exceed this,] and that every square yard of meadow dry land absorb eight gallons of water, then it will be found that by every flooding, more than one hundred and a half of gypsum per acre is diffused through the soil in the water, a quantity equal to that generally adopted by those who spread gypsum on their clover, lucerne, sainfoin or other crops as manure, in the state of powder."

Every soaking of meadow lands by water containing only 25 parts in a thousand (a very low estimate) will give, according to the same authority, two tons of animal and vegetable remains to the acre, substances of

the most fertilizing kind as our river bottoms conclusively show. Too much water, however, is as injurious as too little, and there is no more effectual way of rendering the grasses coarse, sour, and worthless on a meadow or pasture, than to allow the surface to be continually wet, either from springs beneath the surface, or from streams flowing over it. To render flooding or irrigation useful, the soil must be in a condition to absorb the water thrown upon it, and not allow stagnation and the consequent injury of the plants.

#### SAVING SEEDS.

There is too great remissness among farmers, in making a proper selection of seeds. Much of the success of the crop, not only as regards the quantity and quality, but the early or late maturity, is determined by the choice of seed. Let any farmer carefully examine his fields of wheat, corn, or other grain, and he will find some plants distinguished by their luxuriance, productiveness, or early maturity, above the others. If these plants or seeds are preserved, and the same course followed with them, almost any desired quality may be made permanent, and the most essential benefit conferred on the cultivator. Some remarkable instances of these results are on record.

The early Essex pea was discovered by a friend of Dr. Anderson, who, observing among his early peas, one stem much earlier than any of the others, marked and preserved it carefully for seed. The plants produced the next year were also early, and were saved. From this beginning sprung the celebrated early pea, which in a short time spread over the most of England. In the United States, its qualities remain the same, but the name has been changed, and is now generally known as the Washington Pea, one of the earliest peas yet known.

The celebrated Baden corn is another instance of the effect which care and attention can produce. More than twenty years since, Mr. Baden, of Maryland, commenced a system of using for his seed corn, none except ears from stems producing two or more ears of corn. This practice he followed with the closest punctuality for several years, when he discarded two ears to a stalk, using only three or more, and by patient perseverance succeeded in raising the usual number of ears to five or six, and in some extraordinary cases, to ten or twelve on a single stem. Early maturity was not, however, a quality of this corn, and it is evident that corn of such bulk could not come forward sufficiently early to suit our northern climate. It is now extensively disseminated over the middle and southern states, and on the rich corn producing alluvion of the western rivers, has proved a most important acquisition.

In September, 1805, Dr. Freeman communicated to the Massachusetts Agricultural Society the result of an experiment made by him, to hasten the ripening of beans. The earliest pods were preserved; the fullest, fairest beans planted, and this course followed for several years. The following table shows how much the ripening was accelerated by the process:

Planted.	Gathered.	No. of days.
1801, May 10,.....	Sept. 9,.....	112
1802, May 11,.....	Aug. 21,.....	102
1803, May 10,.....	Aug. 8,.....	90
1804, May 8,.....	Aug. 4,.....	88
1805, May 6,.....	July 31,.....	86

At this point, the beans seemed to have reached the shortest period of their ripening in our climate, as in the two years 1804-5, Dr. Freeman planted some of the beans a week later than the other, to try the effect of the heats of summer and later planting, and the result was a ripening as before, in 85 and 86 days.

These instances, although but a few of the many that might be selected, are sufficient to show that in the selection of seeds, the farmer has in his own hands the means of not only adding to the quality of his crop, but materially accelerating its maturity, a point in some plants, corn for example, of the greatest consequence.

#### VALUE OF THE ROLLER.

Too many of our farmers dispense with the use of this implement; some from an impression that their lands are not suitable to its use; and others because its introduction in agriculture is comparatively new, and because their fathers dispensed with it. The farmer, however, whatever may be the character of his soil, if it is fit for cultivation at all, will find it improved and his crops benefited by the roller. Heavy soils that cause plants to freeze out, give an uneven surface in the spring, should be rolled to press the roots of the grasses or grain into the earth, by which many wheat or grass roots that in ordinary cases now perish, would be saved, and all small stones that are lifted up by frost, would, by the passage of a roller over a meadow, be sunk below the contact of the scythe of the mower. On light soils, rolling operates favorably by compressing the soil about newly sown seeds, causing them to vegetate earlier, and succeed better than where not rolled. Light soils rolled, also retain moisture longer than those not so treated, which is an additional advantage on this class of lands.

In sowing or planting on turf land, the roller is indispensable, as by pressing down the turned sward it promotes decomposition, and causes the crop to feel at an early period of its growth the invigorating effect of the manure so produced. A farmer in the New-England Farmer, describing his method of cultivating corn, as-

cribes much of his success to the use of the roller. Last year, in planting a field of 14 acres, one half was rolled and the other half harrowed. The soil of the harrowed part was the best, the manure the same in both. "On the first day of July the corn where the land was rolled was one quarter heavier than on the harrowed part, and so it continued through the season until the harvest." Numberless instances, where the superiority of rolled crops has been manifested, might be adduced, but the reasons of the benefit are so obvious, that they need only to be mentioned, to commend themselves to the attention of every good farmer, and induce him to provide himself at once with this implement, if it is not already numbered among his tools required for successful farming.

#### THE NATURAL SCIENCES.

There are few situations in life more favorable to the formation of an acquaintance with the operations of nature, and the manner in which the grand, profound, yet simple laws that govern matter are carried into execution, than that of the farmer. The most that is required of him is only observation. He is constantly abroad with nature, and he has only to open his eyes, and attentively examine what is constantly passing around him. The man who is the student of books merely, who examines nature only second hand, may make great proficiency if it is true; but he labors under great disadvantages, when compared with him who interrogates nature in its own laboratory, and in every stone, or plant, or flower, or insect, or animal, finds himself in immediate contact with its works, and overshadowed by its mighty influence.

No man has so great an interest at stake in the development of the natural sciences as the farmer, and none should feel deeper interest in the progress they are making. There is not a single step he takes in his labors, in which a knowledge of these laws are not of essential service, in which correct understanding of them will not be useful, and made available to his own profit. Let the farmer study the stones and the earths under his feet, and he will be able to trace some of the wonderful changes the face of the earth has undergone in the first; and learn the alterations or the additions requisite to make the last productive and fertile. The clay, the sand, the lime, the vegetable matter are before him, and it is for him to ascertain their proportions and the changes which he must make to render each field a source of profit, and ensure for his labor its deserved reward.

He finds in his fields a thousand plants, many of which are valuable, many useless, and many most pernicious. He knows nothing of their habits, whether they propagate mostly by seeds or by roots, or whether they increase by both; he does not study the time in which they are most exhausted in the process of vegetation, and therefore can be most certainly and easily destroyed; he does not inform himself whether simply cutting a weed above the surface or below the crown of the plant is the best method of killing the intruder on his fields; from the want of a knowledge of the laws of vegetation he has recourse to the most ridiculous and unfounded notions; errors, fatal to farming prosperity, cling to him in every part of his progress; and all because he passed nature by with contempt, and looked on her laws with scorn; because the name of science was associated in his mind with nothing but hard names and baseless theory, a result owing to his having never inquired and examined for himself.

What a field for observation is opened to the farmer in the insect world; and how imperatively his interest demands that it should be assiduously cultivated. No man has so much at stake as the farmer here; the professional man, the manufacturer, or the mechanic, can scarcely number insects among their direct enemies. Not so with the farmer; his fields are filled with them in the various states of larva, chrysalis, and perfect insect; they prey on the roots, the stem, and the leaves of his most useful plants; he sees them at their depredations year after year, yet he scarcely looks at their operations, only to complain. He sees the cut worm, the black grub, the wheat worm, the Hessian fly, and a multitude of others both above and below ground, carrying on their depredations year after year, and he scarcely knows that at one time they are a worm, at another a fly or a moth; and if he attempts their destruction at all, he most likely does it at the period when it is most difficult and expensive. He finds a nest of eggs or young worms on his apple trees or his cabbages, but passes them by as unworthy of notice, not reflecting that the nest of eggs or the colony that he can easily crush with a single pressure of his heel, will soon become destroying pests, scattered far and wide, and the prolific progenitors of millions. Science would teach him that the moth he deems so harmless, is a far worse enemy than the grub or the caterpillar he pursues so vindictively; and that much labor and loss of property would be prevented by directing his operations against them at the proper time.

The natural sciences are no enemies to experience, as many seem to suppose. They both aim at the same end, the development of truth. Experience is a slow, and not always an accurate teacher; and is therefore anticipated many times by science, which applies the laws of nature to observed facts. For such observation the farmer is more happily situated than any other man; and he has only to make himself acquainted with a few simple, invariable and unchangeable laws, to derive from them the advantages they so positively afford. The cultivator of the soil who refuses to avail himself of all the aids which science as well as experience places within his reach, errs widely; his occupation is a noble one, the whole range of nature is

before him; the sources of instruction and consequent pleasure and profit are ample; and in following them out he is certain of an abundant reward.

#### WOODEN UNDER DRAINS.

In some districts of our country, or on some farms that require thorough or under drains, stones for laying the water course or filling in the drain may not be convenient, or to be had without much expense. In such cases, wood in some form may advantageously be used as a conductor of the water, or as a filling-in material for the drain. Mr. FULLER, of Skaneateles, drained a piece of low wet land very successfully, by using hemlock sticks, made by splitting and laying them in tiers on the bottom, each course lapping the other; and these sticks covered with turf, and the drain, filled in the usual manner, gave a free passage to the water, and made a very perfect drain. Almost every one is aware of the great durability of hemlock or pine brush, when placed in situations where they are kept wet or covered with water. Advantage has been taken of this quality, and young trees of pine or hemlock, or branches from older trees, have been extensively used as filling for trenches in draining. The drain is first filled with the small poles or brush, the lapping being considerable, in order to prevent the horizontal position of the brush in the drain; it is then trodden down as closely as possible, so as to be below the action of the plow, and then covered with turf, straw or earth. Such have been efficient for a great number of years, and in some districts where the materials are abundant, can be readily constructed. Where considerable quantities of water are expected to flow, a drain made of more open materials will, however, be preferred. Some two or three years since, we saw on the farm of the Hon. Judge McCall, of Allegany, a drain made of pine stuff, through a piece of slippery clay. The trunk of the drain was made of narrow plank, notched at the edges to admit the entrance of the water from without, the little clay or quicksand that entered being speedily washed away by the current of water that passed the drain. It had been put down a number of years, and was then in good condition. Where pine could not be had, other wood might be used, and though less durable, the expense of occasionally relaying, should it be necessary, would doubtless be well repaid by the greater productiveness such drains would give a soil. A writer in the *Mark Lane Express* gives the following description of the English mode of putting in wooden drains:

"The mode we have adopted, is to put on the bottom a wooden layer, of the width of the drain, and then to rest the other two pieces, (in form like a gutter reversed,) on this bottom, by which means the oozing of the soil from below is prevented, and care should be taken to keep the three pieces well together, which might be done by just tacking them together before they are laid down, and afterwards laying a little straw on to prevent the crumbs of earth from falling in. Alder is the wood we use, and the cost of sawing out, and nailing together, is about 6d. per rod. The width of the wood we use is about five and a half inches; and of course the laying down and covering is but a small addition to the expense."

We consider it very probable, that in drains so constructed, unless the soils were very loose and friable, which is not apt to be the case with those that require draining, the water way would keep open after the wood had perhaps entirely decayed. In England, the mole plow is extensively used in some clay districts for draining. This implement displaces the clay, leaving a small, smooth, continuous opening for the discharge of the water which leaches through the compact clay, and in ordinary cases, these drains remain effective for a considerable space of time. The pressure above would cause the earth around a wooden trunk to assume such a degree of solidity, when filled in with tolerably tenacious earth, as in all likelihood would cause the opening to remain after the wood had decayed, like those made by the mole drain plow.

#### MYRTLE SOAP.

The value of the wax or tallow from the bayberry, (*Myrica cerifera*) so abundant through the whole length of the Atlantic coast, for many purposes is generally known, but there is one use for which it seems to be eminently adapted, but to which it has not been commonly applied, and that is conversion into a fine and fragrant soap. A writer in the *Southern Agriculturist* thus describes the method adopted by him in the manufacture:

He mixed 3½ bushels of wood ashes with ½ a bushel of unslacked lime, put them into a cask and leached them with water. The lye was strong enough to float an egg. Six or eight gallons of this lye were put into a six pail kettle, and to this was added four pounds of myrtle wax. It was kept constantly boiling for six hours, lye being occasionally added, and the whole stirred with a ladle. After six hours boiling two quarts of common coarse salt was thrown into it, and the whole simmered for an hour. The whole was then turned into tubs to cool; after 24 hours the soap was cut out, wiped dry and clean, and weighed. The produce was found to be 49 pounds of good soap. At the end of six weeks the soap had lost only a few pounds from the evaporation of the watery particles it contained.

In those parts of the Atlantic states where the bayberry can be easily collected, there can be no question that many dollars to each family might be saved, and an excellent article of domestic economy provided, by making soap from this natural product.

## Work for the Month.

Some of the most important labors of the year, are to be performed in October, and though they relate more to the preservation than to the production of crops, inattention to any of the essential things, will detract much from the comfort as well as the profit of the farmer.

**POTATOES.**—Good potatoes may be spoiled by carelessness in digging and preserving. The sun should never shine on a potato. A few hours' exposure to the sun, turns the surface more or less green, and gives the root a bitter unpleasant flavor. When put in the cellar, they should be shut out from the light; and if there is earth enough mixed with the roots to prevent any circulation of air, they will be the better. Be not over anxious about a little dirt on your potatoes when housed, if they are dry, and no root should ever be put in the cellar or in a pit when wet, for a covering of earth is one of the best methods of keeping potatoes fresh and in good order, when in the cellar. Some farmers who pride themselves on the quality of their roots, line their potato bins with thick turf, grass side out, and when filled, cover them in the same way. Pitted potatoes are fresher and better in the spring than those put in the cellar, for the reason that light and air are excluded by the covering of earth. All roots pitted early, undergo a slight heating process, which renders it necessary that holes, closed with a wisp of straw, should be made in the top of the heaps to let the heated air escape. This must be thoroughly closed before severe frosts occur. Turnips and carrots require this opening more than potatoes, though the latter are essentially benefited by the precaution.

**SEED CORN.**—Do not trust to chance for your seed corn. More failures occur in this most valuable crop, from bad seed, than from almost any other cause. Corn, especially all those varieties with large cobs, is rarely so dry, that when cribbed or piled in masses it will not heat to such a degree as seriously injure, if not destroy, its vegetative powers. Experience taught us a lesson in the matter, a few years since, we shall not soon forget. We had a beautiful field of corn which averaged between 70 and 75 bushels of corn to the acre, all apparently sound and dry. In gathering it, when a particularly fine ear was noticed, or more than one such on a stalk, the husks were stripped down, and when the corn was unloaded at the barn, all such ears were thrown into a large tub containing some 15 or 20 barrels, standing on the floor. No danger from any source was apprehended, and when the whole was gathered, this corn intended for seed, was traced up by the husks, and kept dry through the winter. On shelling the corn, some discoloration of the cob was observed, and planting showed to our regret, that while shut from air in the tub, the corn had heat to such a degree as to destroy its value for seed wholly, and a loss of our crop was the consequence. We say, then, gather your seed corn carefully, the ripest and best ears, trace it up at once, and hang it where air circulates freely, and it will dry fully.

**WINTER APPLES** are to be gathered this month, and on the manner of performing it, very much of their durability is depending. To keep well, apples should be ripe, not bitten by frost, and perfectly dry and clean when gathered. The temperature of the place where they are kept, should be low, and the air dry. Cellars are usually too damp, causing speedy decay. Packed in barrels with clean sand, or powdered charcoal, has been found one of the best methods of preservation; but there are some apples, such as the Roxbury Russet, Baldwin apple, and some of the pippins, that placed in bins, in ordinary cellars, will keep until April or May. A good winter apple, fresh and crisp, is one of the greatest delicacies of our country, and their preservation should receive a corresponding degree of attention. We may add too, that as the use of steam shortens the time of sea voyages, our apples will be in great demand for exportation, and may in time become no trifling item in our shipments to less favored countries.

**PLANTING TREES** may be performed in this month with success; indeed some distinguished nurserymen, prefer the fall to the spring for this purpose. Trees can be removed in safety after the terminal buds on the main branches are formed, as this is a sure indication that growth, and the circulation of the sap has ceased. In transplanting, trees do better when the ground is moist, than when it is either too wet or too dry. When too wet, the ground becomes stiffly compacted around the roots; when too dry, the young roots become exhausted of their juices, and the tree suffers, if it does not perish.

**MANURES.**—Farmers who have the means, will find their account in adding to their stock of manures, by carting into their barn yards, muck from swamps or places of deposit in woodlands, or even good common earth, scrapings of ditches or wash of highways, to spread over their yards, to mix with the dung of cattle, and absorb and retain the salts that are too frequently lost by the waste of the liquid manure. In foreign countries, the gathering of leaves to spread over the yards and litter stables, is extensively practiced, for the want of better materials. Here in our deposits of swamp muck, we have the vegetable remains of centuries already decomposed to our hands, and only requiring impregnation with animal salts in our yards, to become the most valuable of manures. To increase his manures by every possible way, is for the interest of the

farmer, and experience proves there are few methods more feasible than this.

**ROOTS.**—Such as beets, parsnips, carrots, vegetable oysters, &c. are frequently thrown into open bins in the cellar, and soon become wilted, and deprived of their flavor. They should be packed in barrels or bins, and the interstices between the roots filled in with sand, or sandy loam. In this way their freshness is preserved, and they can be kept good throughout the season. When used out, the sand may remain for use another year.

**FIRES WOOD.**—Is the wood house filled for winter's use? If not, a loss is certain, first of comfort and patience, both of which disappear before a fire of green wood; and secondly of time and money in getting and using such wood. It is bad policy in every respect, not to have wood ready for burning, without being obliged to cut and draw a stick at a time, whenever wanted.

**STOCK.**—October is a month in which such of the stock of a farm as is not deemed proper to winter upon it, is disposed of; and no little attention is necessary to determine this point advantageously. The price to be obtained, the cost of keeping, the gains of growth, &c. are to be considered; as a farmer not unfrequently finds that he has disposed of animals he should have kept, or wintered such as a moment's consideration would have shown him could give no profit. Animals that are fattening, demand continual care; and an occasional change of diet will be found useful when any disinclination to food is observed. A small quantity of charcoal given weekly to hogs shut in pens, is found to greatly improve their thrift and propensity to fatten.

**FALL PLOWING** is practiced to a considerable extent in most parts of the country, and is proper on all soils that are heavy and hard to work when wet, as such lands usually are in the spring. It is useless to put seeds into the earth, when the whole is in hard lumps of several pounds weight, and there is no pulverizer of such soils equal to frost. When heavy lands are plowed in autumn, many weeds and insects are destroyed; the work is done when a farmer's teams are usually in better condition for labor than they are in the spring; and advantage can be taken of the first favorable season to put in seeds, a thing frequently of great consequence in securing a good crop.

## Inquiries, Correspondence, &c.

### Barilla or Soap Boiler's Waste.

Having purchased lately 200 bushels of Barilla from a soap maker after he was done with it, paying him \$20 for the same, or ten cents per bushel—I wish to inquire of you the best way to apply it as a manure. I want to sow six acres of land to wheat, on which I have this year had oats, and which is already once broke up. I had corn on it last year, and it was limed two years ago. You will also oblige me by stating where I can obtain some Mediterranean wheat.

JOHN SQUIER.

Plainfield, N. J.

Barilla, or soapers' waste, has never been much used in this country, but in England has for many years been one of their most esteemed manures, and vast quantities of kelp, barilla, and soapers' waste are annually used in the vicinity of large cities. According to Davy, barilla contains of

Calcareous matter or lime, .....	91
Gypsum, .....	5
Common salt, .....	14
Carbonate of soda, .....	14

And the principal value of soapers' waste may be attributed to the lime present from the use of barilla.

In England, it is principally employed by spreading it over grass lands, and is found to be one of the most valuable dressings so used. When applied to arable or tilled lands, it is considered best made into a compost with earth and dung. Some agriculturists reject the dung in the compost, as they think the mixture of quick lime with the manure has an injurious effect on the latter. When dung is used, that which is fermented is best, and one part of this mixed with four parts of good mold, and four parts of soapers' waste, and the whole incorporated by repeated turnings. When used alone, it has been found most serviceable on lands rather heavy than light; and the quantity used varies greatly, ranging from 50 bushels to 200 per acre. Large quantities of land are, however, manured by direct application of the barilla, or waste, to cultivated crops, or to the lands on which seed is sown. According to the British Husbandry, the value of a wagon load of the soapers' waste, is considered by some about equal to five loads of rotten dung.

In some experiments made by order of the Board of Agriculture, the effect of different manures on the potato crop was as follows:

Plat No. 1, no manure, produced .....	134 lbs.
" 2, stable dung and soap ashes, ....	298
" 3, stable dung alone, .....	315
" 4, soap ashes alone, .....	383

We are unable to inform Mr. Squier where the Mediterranean wheat can be procured.

### The Sugar Beet.

W. S. of Compton, R. I., who makes inquiries respecting the value of the sugar beet, will find numerous testimonies to their utility in feeding cattle, swine, sheep, &c. in the preceding volumes of the Cultivator, and other periodicals of the day. The communication of Mr. GUTHRIE, to which he alludes, is the only case which we recollect where their use had not been satisfactory.

We have fed few of them ourselves, but from the extensive cultivation they are now receiving in Europe for sugar and for feeding stock, and the general approbation given them where tried in the United States, we have been induced to think very favorably of them. It is doubtless true, that when fed to animals, they will require a mixture of other food, as is usual when other roots are given; as hay to cattle, or corn to swine. Fed in this way, the constituents of the roots themselves would indicate, that, as experience seems to have proved, they may be profitably grown and fed to stock. Partial failures with all new articles, or in new modes of culture, may be expected; but the skill and perseverance which has enabled the farmer to succeed elsewhere, will not fail us here.

### Renovating Grass Lands.

MESSRS. EDITORS.—As your valuable paper purports to have particularly in view the instruction of the farmer, and having for a long time been gratified with its many sound articles, I venture to request of yourselves, or some of your contributors, an article upon a theory in farming which has for a long time been supported by the Editor of the Boston Cultivator (Mr. B.) Mr. B. goes on the broad principle that New England cannot raise grains, potatoes, beef and pork to advantage, or rather, that she can do something else to more advantage, for instance, the great staple of hay; and this he thinks, can be done with little or no manure. Mr. B. thinks from experience, that grass lands turned once in three years, in September after having been mowed, and seeded down, will grow richer and better yearly. This is what we wish to be satisfied upon. The principle that grass does not impoverish land, can it be supported on sound reasoning? Can fair lands be made to cut two tons of hay with the simple enriching of the green sward once in three years?

Springfield, Aug. 1840.

### REMARKS.

As a general rule, it may be said that the exhaustion of any soil is in proportion to the quantity of vegetable matter taken from it in cropping. The state in which the crop is cut, is however, not without its influence; thus if plants are allowed to ripen their seeds, the exhaustion will be effected sooner than if cut green. Grass lands return to the earth considerable vegetable matter even when mown annually, and generally still more when pastured; and we should have little doubt that a naturally good soil, might, by the process of plowing and reseeding alluded to, be kept in a fine condition for any term of years. We should however question whether such a course would be the most profitable on lands capable of producing grain, or a rotation of crops. We have found that the quality and quantity of grass has been materially improved on meadows that had been "bound out," as the phrase is, so that the grass was poor and light, by turning the sward, giving a slight dressing of compost manure, and putting on with the grass seeds, some spring grain, such as wheat or barley. It has been uniformly found in these cases, that the grasses were more vigorous, and the crop greater after each plowing, and remained so until the clover had disappeared, and the sward had become close and compact. The roots of the perished clover, and the decomposed sward when turned, furnish the best subsoil or food for the new sown grasses, and repeated, as proposed by Mr. B. would doubtless produce the effect anticipated. But we do not advise our New England friends to give up the culture of grain, or roots, or devote their farms to any single crop exclusively; nor have we understood Mr. B. as advising this course. Exclusive farming is admissible in very few cases; while a judicious course of convertible husbandry will be found the most ameliorating to the soil as well as the most profitable.

### Cement for Buildings.

A subscriber inquires what kind of cement is the most durable and best adapted for the outer finish of a building, and also the method of its composition."

If some of our builders, who are in the habit of using such stucco or cement, will give us an account of its preparation and use, we shall consider it a favor, as the subject is one with which we have little acquaintance.

### Swarming of Bees, &c.

We have received from Mr. PALMER of New-Marlborough, Mass. a paper on the subject of bees, containing strictures on the article in the July number, on the same insect. Its length and desultory nature prevents our inserting it entire, but the following extracts will show the points on which he differs from ourselves, and most modern apiarists; and first, on the swarming of bees. He says:—

"Experience teaches me that a swarm never comes out without a place to go to looked out long before hand; for I have myself seen bees clearing stuff from a hollow tree, when there was no swarm there at the time, but afterwards a swarm occupied the place thus cleared out."

In the matter of queen bees Mr. P. is altogether a disbeliever in their existence; after describing the ancient method of destroying bees with the fumes of sulphur, he says:—

"I have time after time looked over the bees that fell from the hive into the pit, one by one, and then those remaining in the comb, and I never could find but two kinds of bees, the common working bee and the drone; of course I am convinced there is no such bee as the one

called the queen. I have heard many people pretend to describe the king bee, as it used to be called, but no two agreed respecting him. One says he is larger than the other, another that he is smaller; one says he is one color, and another that he is of a still different color."

Mr. P.'s opinion respecting the domestic polity of the hive, is as follows: "I believe that bees are so constituted by the Almighty, that one rules as much as another; and that *every one* works as long as there is any thing to be done without compulsion. I believe there is not an idler in the hive; and I furthermore believe, that what we call drones are the breeding bees, for this reason, that when they want no more young, we see them destroying the drones, sparing only just enough to begin the next year."

We have room only to remark, that although we are aware opinions which owe their existence "to a life of seventy years," as Mr. Palmer speaks of his, are rarely changed; yet if we will procure some of the latest practical works on this useful insect, such as Weeks, or Wilson, we presume he will find reason, if not to change, at least to materially modify some of the positions here advanced, particularly those respecting the queen bee, and the character and use of the drones.

#### The Grasses—Wheat.

Our correspondent "J. D." of Napoleon, Mich. is informed that the specimen of new grass he forwarded to us, appears to be the species called in England *Poa*, and of the variety *Poa pratensis*, although owing to its condition there may be a mistake in the variety.

Orchard grass, or *Dactylis glomerata*, respecting which he inquires, is one of our most valuable grasses either for mowing or for pasture; and particularly so for shaded grounds. Some farmers have complained of its growing too large and coarse; and if sown thin, on rich ground, such will be its character; but when mixed with other seeds, such as timothy and clover, or rye grass, it grows thick and fine, is fed by all animals with avidity, and springs after mowing or feeding with greater quickness and rapidity than any grass with which we are acquainted. We may remark here, there are several kinds of grass known among farmers in different parts of the country, as orchard grass, but widely differing in their qualities from the *dactylis*, or true grass.

J. D. asks the process of converting winter into spring wheat. To do this, nothing more is necessary than that the winter wheat should be allowed to germinate slightly in the fall or winter, but kept from vegetation by a low temperature or freezing, until it can be sown in the spring. This is usually done by soaking and sprouting the seed, and freezing it while in this state and keeping it frozen, until the season for spring sowing arrives. Only two things seem requisite, germination and freezing. Thus it is probable, that winter wheat sown in the fall, so late as only to germinate in the earth, without coming up, would produce a grain which would be a spring wheat if sown in April, instead of September. English spring wheats are here winter wheats, that is they are there sown so much earlier than it is possible to sow here, that put into the earth with our spring wheats, they do not come to maturity. We have for two or three years grown a spring wheat produced by the above process, from the autumn or winter flint wheat, and consider it a very good variety.

#### Thorn Hedges.

S. D. FRASER, of Fowlerville, has forwarded the following queries, relating to the subject of hedging:

"1. Is the native or exotic thorn, all things considered, best adapted to our soils, and to withstand the frosts of winter?

"2. Is the seed planted on the line intended for the fence?

"3. How is the seed gathered and prepared?

"4. Would a mound two feet high and four feet broad, afford nourishment to the plants, and tend to protect them from the mice?"

As Mr. Fraser states that the native thorn thrives well on his lands, it is probable it would succeed as well or better than the English Hawthorn, or any variety of foreign thorn. The much greater heat and dryness of our summers, has appeared unfavorable to hedges of foreign thorns; as they rarely, for any time, have that freshness and vigor so common to hedges in Britain. The value of our several native thorns for hedges, is yet to be determined by experiment; but we are confident, if hedging is ever introduced into this country to any extent, we must rely on our native trees, instead of imported varieties. The common thorn, honey locust, and buckthorn, appear at present the most likely to succeed at the north; the osage orange promises much for the south.

The seed is never sown on the line of the fence. It is first cultivated in beds, and either allowed to stand where the seed is sown till the trees are large enough to set for fence, or transplanted into nurseries from the seed bed, for cultivation. The trees, if well cultivated, grow rapidly, and it will be found better usually to let them attain the diameter of half an inch, two feet from the ground, before they are set for hedges.

The seeds of the thorn vegetate with some difficulty. Mr. Wheeler directs that they be gathered, buried in the ground and suffered to remain until the second spring, when they may be taken up and sown in drills. Other cultivators of the thorn have mixed two parts of earth with one of seed, laid them in a ridge upon the surface in a garden or some secure place, and covered them

with about three inches of mould. Overhaul once in the summer, and replace and recover the seeds. In the autumn following they will usually be found to have germinated, and may be sown in drills or beds.

The thorns set on such a mound as is mentioned would be more apt to escape the mice, and would doubtless receive sufficient nourishment; but hedges in this country suffer more from heat and drought than other causes, and too high a mound might be injurious in that respect. Mice rarely attack trees or hedges which are kept clean from weeds and grass; and hedges must be kept free from such things or a failure must be expected. Beech, it is not probable, could be used successfully as a hedge, as Mr. F. seems to suppose; it would not give a thick bottom.

Mr. Fraser will find all necessary directions for planting and cultivating hedges in the previous volumes of the *Cultivator*, to which our limits compel us to refer him.

#### Singular Worm.

H. C. BEARDSLEE of Montville, near New London, requests some information respecting the habits of a worm described by him as making sad ravages with the foliage of apple trees. It is unquestionably the larva of some one of the numerous family of Phalaena or moths, and like the ordinary caterpillar, is produced from eggs deposited by the moth on trees or plants suitable for its food. Such worms are always more successfully attacked while young, and clustered together, than when older and scattered in all directions in pursuit of food. If any of our entomological friends, from the description given below by Mr. B. should recognize the kind of worm, and will furnish us some account of its transformations and habits, it will doubtless be welcome to many.

"Length of the body two inches; thickly set in every part with white hairs. Color very dark olive green, with eleven longitudinal stripes of bright yellow. Feet seven pairs; three pairs forward, small, black, and pointed; four pairs about the middle, short, thick, yellowish brown. These last are its means of locomotion. Head black. When irritated it turns up its tail at right angles to the body, and then throws the fore part of its body over, until it is parallel with and nearly touches the back. Its excrement is as large as a kernel of rye cut transversely, and is marked with six deep longitudinal grooves."

#### The Great West.

We have received an interesting, and in some respects, amusing communication from the well known Pioneer of the West, THOMAS S. HINDE, at Mount Carmel, Illinois. Its great length and miscellaneous nature precludes its insertion entire, but we must present a few extracts to show what he, who knows it well, deems the Great West to be. Of himself he says:

"This is the 43d year of my pilgrimage in the wilderness of the Great West; having been three times a citizen of Kentucky, twice a citizen of Ohio, twice a citizen of Illinois, and have ranged through the west pretty generally. I saw Daniel Boone, the first settler of Kentucky, taking up his line of march from his *Boonsborough* on the Kentucky river, to the then new region of Upper Louisiana (now Missouri) in 1797, accompanied by his venerable spouse, and traveling in the old style with pack horses and bells, to his new region of loneliness and buffaloes."

When the west, in 1832, celebrated their first anniversary of 50 years from the first settlement west of the mountains, General Kenton, the associate of Boone, was dead, and Mr. Hinde as *Pioneer junior*, acted as adjutant. Mr. Hinde, who we believe is a preacher of the Baptist order, was instrumental in establishing the first Religious Magazine and newspaper, west of the mountains. After a glowing eulogium on the agricultural capabilities of the west, Mr. Hinde says:

"As a pioneer of the west, for my residence in the decline of life, and with a view of having my family in a desirable part of the west, I chose the central part of the great Ohio and Mississippi Valley as the most desirable part; connecting the advantages of health, climate, soil, agriculture and commerce, together with manufacturing, looking some 20 or 30 years ahead, as experienced farmers usually do. While during this period, the whole western empire has been overrun and settled, it was not until within a very short time past that the pioneer's choice began to be duly appreciated. The object of this letter is therefore to inform you, and northern and southern emigrants generally, who can live without slave labor, that we have, 1st, the best tobacco and hemp region west of the mountains; our tobacco bears two per cent premium in the New Orleans market, over all other tobacco. 2d, we have the best grain and grass country combined, to be found in all the west. 3d, we have an excellent fruit country; also well calculated for the raising the mulberry, and in some degree, the vine; our wild grapes are abundant, and the best I have ever seen. I have pears growing here (the Bergamot,) brought originally from England by my grandfather, some 120 or 130 years since. We want men of business and enterprise, and since business of all kinds has been called to a grand halt, to those who would seek a region where speculation has never raged, where the people are prudent and industrious, where they can find an asylum from the fluctuations of the times, our country at the southern termination of the grand prairies, furnishes one of the most desirable places in the west; and to those who think of removing, I would say, 'come and see'."

Let no one who reads the following extract, doubt hereafter of the fertility of the Wabash Valley; taken in connection with the statements of the Cincinnati census-taker, it almost establishes the doctrine of spontaneous production. In any event, Mr. Hinde's country must be the very Eldorado of the childless, and where the heart of the once barren sings for joy.

"I feel," says Mr. H., "some degree of hesitancy in detailing some very singular facts, but as they are true, I am not ashamed of doing so. You need not call aloud for *emigrants* [we presume Mr. H. means foreigners,] to come, for of all regions for the bearing of children, this may safely be said to excel. Twins are quite common, sometimes three at a birth; and what is passing strange, old ladies on removing to this region, renew their vigor, and begin again; some whose youngest were 7, 8, or 10 years old, on arriving here, have added to their family; this is quite common. \* \* \* Last year, a gentleman and lady who had been married nine long years, and had no offspring, visited the lady's parents in this place. The visitors resided in Philadelphia, and in nine months from the time they left this place, to return to that city, the lady was blessed with a fine son!"

We are pleased to learn from Mr. Hinde's letter, that strenuous efforts are making to furnish this rapidly increasing population with a good education. The great west cannot avoid being a rich country; nature has made it such; the bringing out of its resources must depend on its inhabitants, and the character of these will be governed by the education they receive. Teachers are at present much wanted in that region, and competent ones, will find constant employ. Mr. Hinde himself is about to open a "Log Cabin" college on the manual labor system, for the purpose of giving farmers' boys an education, such as will be useful to them in any station of life. His plan of an agricultural school or college is well conceived, and we trust will succeed; let him "go ahead." We trust Mr. H. will fulfil his intention of allowing us to hear from him again.

#### The Mulberry—Hessian Fly.

The following queries we have received from R. FRENCH, Esq. of Sherman, St. Joseph's Co., Mich.—"1st. What is the best method of keeping the common white mulberry during the winter, after they have been taken out of the ground in the fall. The trees are of two summer's growth, and the object of taking them up is to secure them from the frost, for planting out in the spring, where they are to stand hereafter?—2d. What can the *Multicaulis* be purchased for, per hundred, at the nurseries in the vicinity of Albany; say trees of one summer's growth?"

REPLY.—To preserve the white mulberry, nothing more is necessary than to pack the trees in a cellar with sand or earth. A friend of ours purchased in the fall, some 5,000 trees, removed them to his cellar, packed them in this way, planted them out in the spring, and every tree grew. The *Multicaulis* is kept in the same way, without the least danger or difficulty. The *Multicaulis* is not cultivated to any extent in the vicinity of this city. We have seen nothing indicating the prices, at which the plants are sold at this time.

The grain insect which has been so destructive to wheat crops in some parts of Michigan the past year, is unquestionably the Hessian fly; no other depredator on wheat, with which we are acquainted, answering to the description given by Mr. French. The fly will probably run its course there, and cease its ravages, as it has in other parts of the country; and as the grain worm has already partially done in this state. The advance of agricultural knowledge, and a more skilful cultivation, may enable us to prevent their recurrence.

#### Mr. Bates' Short Horns.

Mr. JOSEPH COPE of East Bradford, Chester Co. Pa., informs us that, wishing to procure some of the best Short Horns, he went to England in the summer of 1839 for that purpose. After traveling through several countries, he attended the Oxford Meeting of the English Agricultural Society, and was present at the public sale of stock which closed that splendid spectacle. Thus far he had not been able to procure stock to his liking. On visiting Kirkleavington, however, he found his expectations fully realized in the herd of Mr. BATES, who received four prizes for that number of animals taken by him to Oxford. He purchased a bull calf, Yorkshireman, eleven months old, of Mr. Bates, for which he paid him \$525—expense of shipping, \$100—freight \$50, making \$675. Yorkshireman was sired by Short-tail, grand-sire Belvidere, who was sire of the famous Duke of Northumberland. S. and D. were both from Dutchess' cows. In the certificate given by Mr. Bates, he states that had Yorkshireman been taken to Oxford, he would have won the prize, as he surpassed the one that took it, more than either of his four surpassed those shown against them. To show the estimate placed on this stock, Mr. Cope states that three fine heifers (one of which was originally from the herd of our correspondent "R." of Butternuts,) belonging to Mr. COLLINS and the MESSRS. LATHROPS of Springfield, Mass. recently arrived at his farm to be put to Yorkshireman.

SOUTH DOWNS.—During the same tour, Mr. COPE purchased and brought home with him, seven South Downs—one buck, for which he paid \$150, and two ewes, from the flock of Mr. JOHN ELLMAN, and four ewes from Mr. S. GRANTHAM, steward to the Earl of Liverpool.

## FARMING IN GERMANY—SHEEP.

We have received a well written essay on the above subjects, from the pen of J. S. Carr, Esq. an English gentleman, resident in the Duchy of Luxembourg, of which we propose giving an abstract to our readers. The state and progress of agriculture abroad, must always be a subject of interest to the American farmer, for though many of their practices, owing to various circumstances, are not applicable in this country; yet many valuable hints for our conduct may be derived, and multitudes of facts, from which we should be able to profit, are in this way elicited.

The soil of the country, the farming of which is particularly described by Mr. Carr, is elevated and sandy, with districts of rich loams and heavy clays, and cultivated with much "plodding industry." The size of the farms varies from 50 or 60 acres in the hands of the peasantry, to 500 or 2,000 in the hands of the farmer or proprietor. The buildings are about the centre of the estate, and consist of the dwelling house, flanked by rows of very large buildings, often 200 feet long by 60 broad. These contain the stables, cow house and dairy, sheep house, and barns for the whole crops. The threshing floor is immense, admitting a four horse wagon of grain at once, and shelter to a dozen such loads if necessary, at a time. The number of cows depends on the size of the farm, varying from 300 to 400, exclusive of young cattle and oxen. The sheep house is able to contain from 500 to 5,000 sheep; for shelter for the flock, be it large or small, is considered indispensable in Germany, thus corroborating the opinions of our correspondent "L. A. M." on the management of sheep, most fully.

One of the most valuable crops cultivated is rape, which, though somewhat uncertain from the attacks of insects, is much prized for its oil, and for feeding cattle. The crop is frequently worth from £10 to £20 per acre. The straw is generally burned and scattered over the fields. For manuring, the basis of improvement is a dressing of marl, (containing about 60 per cent of lime,) at the rate of 164 cubic feet per acre. The deposits of ponds, marsh mud, peat, and in short, every mode of making manure is practiced with skill and success. These are combined with the large quantities of muck from the stables, sheep yards, pig pens, &c. and all rendered available to the utmost extent.

Within a few years a system of farming, based on the principle of rotation, has been adopted with the best success, and a great improvement of the crops and the soil.

The rotation is now generally of ten years, viz:—1st year, allow well dunged; 2d, rape; 3d, wheat; 4th, barley; 5th, (light dunging) peas; 6th, rye; 7th, oats sown with rye or timothy grass seeds and red clover, which as well as the peas, is gypsumed with great effect before the dew has left the plant in a May morning. The clover is mown twice for hay, and left two years longer for pasture.

Good cattle and horses from England are gradually supplanting the native stock; although for the purposes of the dairy, we understand cows of the common breed are still preferred. The farm horse of the north of Germany is described by Mr. Carr, as "a long legged, small bodied, big headed, shapeless animal, bred in Holstein or the Danish islands; his price from £15 to £20, and two tons is a load for four of them, in a wagon over country roads." The cows are not considered as very remunerating, but they are necessary to convert the straw and hay into manure. They are frequently let to the dairy man at £2 to £2 10s. per head.

It is to the sheep, however, and those of the Saxon or Merino breed, that the farmer of the north of Germany looks for his profit, and it is a source that rarely fails him. The greatest pains are taken to keep these breeds pure and separate from all others, as on the fact of all the fleeces of a flock resembling each other in quality, much of the profit is depending. We shall make an extract or two from that part of Mr. Carr's essay particularly relating to sheep, as it is a subject of increasing interest to the northern farmer, and the whole United States:

"The Merino is a long legged, narrow bodied, ugly animal, with a fleece varying in weight in proportion to its coarseness, (although fine wool is specifically heavier than coarse) from two to three pounds. The staple is very close and thick growing, greasy and oily to the feel, elastic and soft, very tenacious, and formed differently from any other wools, with a number of minute bends or curls in each hair."

In order to improve and render uniform the wool, breeders keep large numbers of rams, the wool of which, carefully cleansed, is submitted to experienced staplers, and among 50 or 100 rams, that to the inexperienced eye would present little difference in appearance, very great differences of quality and general goodness will be found. Those, the wool of which is the most uniform in fineness as well as the best in quantity, are selected for the improvement of the flock, and it is by continued recurrence to this mode that much of the superiority of the German or Saxon wool is owing.

"There are in the north of Germany two kinds of the Merino, the first the Infantado, or Nigretti; distinguished by its shorter legs, and a stouter make; the head and neck generally short and broad, the nose short and turned up, and the body round like a barrel. The wool is often matted upon the neck, back and thighs, and grows upon the head to the eyes, and upon the legs to the very feet. The grease upon the fleece is almost pitchy, and as the dust becomes incorporated with it, the washing is a matter of difficulty and some risk. \* \* \* The fleece of this species is generally thick, close grown, and abundant. Ewes may average 2½ and even 3½ pounds by careful feeding, (which, however, must never approach to feeding to be fat, else the wool becomes wiry and hard;)

and rams and wethers may bring four and even six pounds. This is the animal that came to Austria from Spain."

We may add that this was also the animal first imported into the U. States from Spain, by Messrs. Humphreys & Livingston.

"The other breed is the distinct one called in Spain the Escorial, and from this was made the Saxon importation in 1765. Their shape differs markedly from the Infantado, longer legged, with a long spare neck and head, with very little wool on the latter, a finer, shorter, softer character in its fleece, but deficient in quantity. 1½ lbs. to 2 lbs. is frequently the amount from ewes, and 2 lbs. to 3 lbs. from rams and wethers. On being presented to the Elector of Saxony, in 1765, they received the appellation of Electorals. A great deal of trouble has been taken to combine the advantages of both breeds by crossing, but with doubtful advantage, and, although the mixed breed has been found suitable for crossing with sheep not thoroughbred, (called Mesuzen,) yet experience has shown, that to breed with advantage, all the rams, be the ewes what they may, should be thoroughbred Infantadoes or Escorial, and that the same strain of blood should be preserved in. Good rams are of course every year becoming more attainable, but there are examples of breeders in Saxony who still obtain for distinguished rams, as much as 100, 200, or even 300 Louis d'ors."

This coin is worth \$4.35, consequently such rams are worth from \$450 to \$1,300, a price which will well remunerate the extra attention paid them.

The question has been frequently asked, why, when there is such a demand for fine wools in Britain, and so much attention is there paid to the breeding of sheep, that the Merino has not been introduced into that country. The remarks of Mr. Carr on that point, will give a satisfactory answer, and will also show that the climate of the United States is well adapted to the production of fine wool, when reasonable precautions for their comfort in our winters are adopted. We may add, that great efforts are at this time making to acclimate the Nigretti breed of the Merino in England, Lord Western having a flock of very fine English Merinos; but the attention and care paid to his, if absolutely necessary, must render their general introduction impossible. The experience of each succeeding year proves there is nothing to prevent the U. States becoming the greatest wool growing, as it is the greatest cotton growing country on the globe.

"I am aware that these sheep have been frequently brought to Britain from Spain, but there never was labor more lost, as they cannot thrive in a damp climate: besides, it is quite necessary that they should have a wide range of dry and hilly pasture, of short and not over nutritious grass or herbage. If allowed to feed on swampy or marshy ground, even once or twice in autumn, they are sure to die of liver complaint in the following spring. If they are permitted to eat wet grass, or exposed frequently to rain, they disappear by hundreds, with consumption. In these countries it is found that the higher bred the sheep are, especially the Saxon or Escorial, the more tender. They are always housed at night, even in summer; except in the very finest weather, when they are sometimes folded in the distant flocks; but never taken to pasture till the dew is off the grass. In winter they are kept within doors altogether, and are fed with a small quantity of sound hay, and every variety of straw which has not suffered from wet, and which is varied at every feed; they pick it over carefully, eating the finer parts and any grain that may have been left by the threshers. Abundance of good water to drink, and rock salt in their cribs are indispensables."

Mr Carr states the wages of active young men per annum, who board in the house, to be from 25 to 30 dollars; exclusive of certain trifling perquisites, called sack money, arising from all grain sold, &c. On the large farms there are always more or less married men employed, and their wives are always included among the farm laborers. "The wages may be averaged for men, from the first of May to the first of November, at 10d. and in winter 8d. per day, [16 to 20 cents per day.] the women always 2d. less. Notwithstanding this low rate of wages, poverty is rare, and wandering beggars are unknown."

## Comparative Value of Articles used as Food.

Professor Silliman has given a translation of M. Dom-basile's experiments with several articles in feeding animals. Seven lots of seven sheep each were selected, of nearly equal weight, kept in separate divisions of the stable, the weight of each lot ascertained once a week, and the experiment continued five weeks. One of the lots was fed exclusively on lucerne hay, of which each sheep was found to eat 15 pounds per week. Each of the other lots received half the quantity of lucerne, and enough of other kinds of food named to keep them in good health, and of the same weight. The kinds of food used were, dry lucerne, oil cake, oats and barley, raw potatoes, cooked potatoes, beets and carrots; of these substances, the quantity found necessary to equal the half ration or 7½ pounds of lucerne, withheld from all the lots excepting the first, was as follows:—

Oil cake,.....	4½ lbs.
Barley,.....	3½ "
Oats,.....	3 "
Raw potatoes,....	14 "
Cooked potatoes,..	13 "
Beets,.....	16 "
Carrots,.....	23 "

or in other words, 23 pounds of carrots were only equal to 7½ pounds of lucerne hay, 4 pounds of oil cake, or 3 pounds of oats. It may be remarked that the quantity of water drank by each lot of sheep was also accurately ascertained, and while those fed on grain and oil cake used during the experiment about 200 quarts of water to each lot, those fed on roots did not use 100 quarts; and those on carrots, only 36 quarts.

## Nutritive Qualities of Sugar.

All who have paid attention to the subject of nutrition, whether practically or theoretically, are aware that sugar is one of the most nutritive of substances; yet that it is impossible to subsist upon it alone for any considerable length of time. This truth received a melancholy confirmation in the death of Stark, the Vienna experimentalist, who fell a victim in an experiment of this nature. There is but a shade of difference in the elementary atoms of sugar, starch and wood, according to the statements of Berzelius and Prout; and the inference therefore, that it must be nutritive, is found to agree with the fact. An experiment was made in the Indies, of feeding cavalry horses on sugar, and when mixed with small quantity of cut hay or straw, was pronounced the best of feed; alone, it did not distend the stomach, the action of that organ was impaired, and in the cases persevered in, disease and death followed.

The author of a Year's residence in Cuba, states that though the labor of the sugar making season is the most severe of any to which the slaves are subjected, yet they always grow fat and sleek in that employment; a fact attributed to their making a free use of the cane, and the expressed juice and syrup. It is probably to its containing so much more saccharine matter than other beets, that the white silesian or sugar beet, is so valuable as a food for animals. It has indeed been supposed by some that the nutritive qualities of any substance could be correctly estimated, by a knowledge of the sugar it contained, or of the materials capable of conversion by animal chemistry into that substance.

In the early settlement of all wooded new countries, the article most relied upon for the winter subsistence of cattle, until grass or grain can be grown, is browse, or the terminal branches of twigs of trees; and of these, there is none so valuable or nutritive as those of the sugar maple. We well remember with what eagerness, as the tall maples fell before the axe of the woodsmen, the cows and oxen would plunge into the snow to be the first at the feast; and we have never known a stock of animals more hearty or in better condition, than when fed in that way, with each a 'nubbin' of corn daily.

A correspondent of the Journal at Syracuse, Onondaga, has furnished another proof that the sap of the maple, or in other words sugar in solution, is of value as food for animals. He says:—

"A neighbor of mine tapped his sugar bush about the 1st of March last, and from that, to the present time, our hogs have daily run in the woods in which the trees are tapped. Soon after the sap weather commenced, we began to see a change in the condition of our hogs, and remarked upon the impossibility of their thriving so, on what few nuts and roots they could get. In the course of a week or ten days after their thrifty appearance commenced, we happened to be in the bush, when they made their visit to the sap. The mystery was at once explained. From that time we noticed that they made constant visits to the troughs. We could see that our troughs grew plump daily, and even fat, and that too from drinking maple sap. I should think they gained one-fourth in weight, while they had access to the sap. Since the sugar season has passed, they have remained nearly stationary; another proof of what I have said. Next spring, I am mistaken if my slop barrel does not have plenty of this beverage, in readiness for my pigs."

We would hint to the correspondent of the Journal, that although there is no doubt of the nutritive qualities of sugar in bulk or solution, yet if he will make a liberal addition of Indian or barley meal, to his slop barrel of sap, or allow his pigs a good range of wood land, abounding in shack, we will venture to say he will find the thrif of his swine greater than if confined to maple sap alone.

## SALT FOR ANIMALS.

The importance of furnishing salt to domestic animals, does not appear to be sufficiently understood. Though all are aware of the avidity with which animals eat it when given them; there are many who scarcely salt their animals through the season. Now it is evident that animals should have it at all times at their command. They will never eat more than is good for them, and it is essential to their health and comfort. The quantity allowed in Spain for 1000 sheep, is 25 quintals, probably twice the amount the same number usually get in this country; and this quantity is consumed by them in about five months, they getting little in the winter or while journeying to and from their mountain pastures. Lord Somerville allowed a ton of salt to a thousand sheep, and found they consumed the most in the spring and fall, and at these seasons it was probably most useful to them as a security against disease. Of its value for animals in a medicinal point of view, the following fact, stated by the celebrated Curwen, must be deemed decisive:—

"Before I commenced giving my cattle salt, my farrier's bill averaged 58 pounds per annum, (or more than 250 dollars,) and since I have used salt, I have never paid in any one year over five shillings."

Where cattle have access to sheds, troughs with a constant supply of salt in them, should be kept for their use. Where they must be salted in the fields, troughs should be placed, and salt supplied frequently. There will, in exposed troughs, always be more or less loss from rain, but that should not prevent a supply. It has been found an excellent practice where sheep alone come to the troughs, to put a little tar on the bottom, and sprinkle the salt upon it. In this way a small portion of the tar is taken with the salt, and is not only found conducive to health, but, rubbed in this way over the nose, serves to prevent the attacks of the Estrus ovis or sheep fly.

## DICTIONARY OF TERMS

USED IN

## Agriculture and its Kindred Sciences.

**CULTURE.** The process by which the soil is prepared, the seed sown, and the plant brought to maturity, is denominated culture. The preparation of the soil, and the sowing of the seeds, are usually called the previous culture; that care and attention which follows the springing of the plant, is known as after culture. In this country no after culture is given to wheat, while in Europe it frequently receives the same careful after culture of weeding and hoeing, that is here given to corn and potatoes. It is probable that an increased attention to the culture of wheat will become necessary here, as the natural fertility of the soil decreases, and the weeds that multiply under an improvident system of agriculture, gain a more extensive and permanent foothold in our soils.

**CURCULIO.** This is a numerous class of insects belonging to the coleopterous class, (or bugs,) and in various ways, are a severe annoyance to farmers. They prey on grain, on plants, and on fruit, though it is on the first and the last that they most usually fall under our notice. The weevil, *Curculio granarius*, that at times produces such frightful ravages in our storehouses, and which in some countries renders the preservation of grain for any time impossible, is perhaps one of the most injurious. This insect is of a pitchy red color, only about two lines in length, and when it obtains access to a granary, pierces the kernels with a borer, in which an egg is deposited. This is soon hatched, and becomes a small white, soft worm, which preys on the inside of the kernel, and in time becomes a perfect insect, ready to propagate its species and perpetuate mischief, as long as grain can be found in which to deposit the egg. Degur, the celebrated entomologist, says that a few hundred weevils admitted to a granary, would, in the course of four or five months, destroy between one and two hundred millions of grains. But a single hole is made in a kernel, and but one egg deposited in each. Barley is a favorite grain with the curculio; and small heaps of this placed in granaries, and occasionally removed or subjected to boiling water, are used in some places, as decoys for the insect, and to prevent their settling on the wheat. Another kind of the curculio attacks fruit, particularly plums and cherries. A kind of half moon incision is made in the young fruit by a forceps-like instrument, and under the flap so lifted, an egg is deposited, which speedily becomes a little worm and feeds on the juices and pulp of the fruit. A little attention to the trees, about a week or fortnight after the setting of the fruit, will usually save much of it from their attacks. The curculio during the day lies concealed in the top of the tree, and a sudden and violent jar will dislodge many of them. By spreading cloths on the ground under the trees, the falling curculios are caught, and may be destroyed. The fruit that contains the grub, falls to the ground, the worm takes refuge in the earth, and in the spring emerges the perfect insect, ready to renew its operations on the young fruit. Where swine can come to the trees, they will destroy the worm as it falls in the fruit, and thus render an essential service to the fruit grower. The pea bug is another species of the curculio, and commits great devastations on this valuable plant. The better way to prevent this insect, is to never sow seed under two years old, as in this case the perfect insect has emerged, and will not be at hand to commence operations on the young pea vine or pod.

**CURRENT.** This is the fruit of a well known shrub, sometimes found wild, but generally cultivated in gardens. There are red, white, and black varieties, and the utility of these fruits in domestic economy is well understood. The fruit of the black is much prized for its medicinal qualities, while that of the red and white is preferred for wine, syrups, and jelly. The white currant, in its largest varieties, when fully ripe, is partially transparent, and is a beautiful and delicious fruit. With white sugar, it makes a colorless wine of fine flavor and keeping well. In cultivating the currant, the best method is to take shoots of one or two years growth, and before inserting them into the earth as cuttings, to carefully cut out with a sharp knife all the buds below, and for a few inches above the surface of the ground; in this way the bushes have a tree form, and the fruit will be far better, than if grown in the close bushy shrubbery where it is usually cultivated. What are called Zante currants, and may be purchased at the shops, are not properly currants, but small kinds of grapes, dried for sale.

**DAIRY.** Establishments devoted to the preservation of milk, to the making of butter and cheese, are called dairies; and farms on which cows are kept for these purposes, are called dairy farms. If the milk furnished is made into cheese, it is called a cheese dairy; if into butter, it is called a butter dairy, &c. Dairies for furnishing milk for use, are principally found in the vicinity of large cities, and some very large ones are found near all cities of note, in this or other countries. It is supposed that not less than 30,000 cows are kept for the supply of London with milk, and dairies of from 50 to 300 cows may be found in the neighborhood of our principal cities. Such cows are kept in stables, and too frequently fed on materials that render the milk given of an inferior quality, if not positively injurious. None but pure sweet pastures can furnish cows with a food, enabling them to supply the best milk, and it is certain there is not more difference between chalk and

water, and the usual milk provided in cities, than there is between the last and that produced by those fed in the rich clover pastures of the country. The dairy business is a healthy and profitable one, not perhaps giving returns so great and quick as grain growing, but requiring less labor of an expensive kind, causing very little loss in the wear and tear of implements, and improving instead of exhausting a farm, as grain growing is apt to do. As to the breed of cows the most suitable for the dairy, it would seem as if public opinion abroad as well as in this country, is much divided on the subject. Some prefer the Ayrshire, some the Hereford, some the Devon, and others the Durham or Short Horns. The truth is, there is no breed uniformly good for the dairy, and great milking qualities have never been fixed in any kind of cattle, as has size and propensity to fatten early, in that of the Short Horn. Good cows may be found in all the breeds and crosses, and many of our native cows have exhibited dairy qualities rarely rivalled, if equalled, by the best of the improved breeds. Mr. Colman's Report on the Agriculture of Berkshire, Mass. will show this. The best dairies in all countries are made of selected cows, and the neater and better they are kept, the greater will be the profits of the dairy. In every thing connected with the management of such an establishment, from the feeding of the cows to the delivery of the milk, butter or cheese in market, the most scrupulous neatness and order should be observed, or the products will be proportionably injured, and their value lessened.

**DAISY.** This plant, particularly the variety known as the *Chrysanthemum leucanthemum* of the botanist, oxyeye or white weed of the farmer, is one of the greatest pests where it is permitted to get possession of the soil. It grows so thick as to preclude the appearance of the grasses, or exterminate them if they already exist. Thorough cultivation is the only remedy where they are present, but the farmer will find if he destroys the plant effectually on its first appearance, even if requiring considerable labor, that the time and exertion are well expended. This plant is readily known by its white blossom, and by its unfortunate prevalence. There is another plant called the yellow daisy by some, by others buttercup or crowfoot, very common in wet meadows; but this plant is a species of Ranunculus, not a daisy. It is, however, of no value, and if its growth and spread is not checked, it injures the other grasses materially. Some have supposed that the crowfoot when made into hay, if eaten to any extent by cattle or sheep, induced disease among them.

**DAMPS.** Carbonic gas being heavier than common air, has a tendency to accumulate in all low places, such as mines, pits, wells, cisterns, &c., and in situations favorable to its formation, is sometimes found in such quantities as to be instantly fatal to animals. This air or gas is known by the name of damp or *choke-damp*. The Grotto del Cano at Naples, and the valley of the celebrated Upas tree of Java, are instances of the fatal effects of accumulated carbonic gas. Where this gas exists in injurious quantities, it extinguishes flame, hence we are fortunately provided with the means of ascertaining its presence; and no one should venture a descent into any of the places named without first lowering a candle or lamp. Carbonic gas is generated in large quantities in the vats of cider distilleries, where a small quantity of the liquor remains for any time; or in brewers' vats, in which the acetous fermentation is allowed. Numerous deaths occur yearly from the operation of this gas, and farmers and others, who are particularly exposed in clearing wells, should always take proper precautions. There is another kind of damp called the *fire-damp*. This is found in coal mines almost exclusively, and is a mixture of carburetted hydrogen and atmospheric air, constituting a very inflammable body, and exploding with great violence when placed in contact with the flame of a candle. One of the greatest triumphs of science was the discovery of the safety lamp of Sir H. Davy. Previous to the invention of this lamp, the most frightful accidents from explosion were of common occurrence in the coal mines of England; now they are unknown.

**DECOMPOSITION.** This is a term employed in chemistry to denote the resolution of a compound substance into its constituent parts. In agriculture it is principally used to signify the process by which animal and vegetable bodies pass into a state that renders them serviceable as food for plants. During life, the elements of organic bodies, whether animal or vegetable, are held together by vital affinities, under the influence of which they were at first united. When life ceases, these elements become subject to other laws, those that govern inert matter. The original affinities that were suspended during the vital organization, again operate, other combinations are formed, and the organized structure passes to decay. The rapidity and extent of decomposition are in a great measure depending on the circumstances under which the process takes place. Substances kept perfectly dry and at certain temperatures, decompose very slowly, or not at all. Moisture, unequal temperature, or the presence of certain agents, aid the process materially. It is by decomposition that all manures are formed, and it is by regulating, aiding and combining the action of different substances, that the most valuable of composts and fertilizing powders are prepared. To preserve plants, timber and vegetables from premature decomposition, has occasioned much research, and though in some cases successful, there are others in which all efforts to arrest the original laws of action have proved unavailing.

**DEGRADATION** is that process by which unorganized bodies are reduced to their primitive elements, and is to them, what decomposition is to vitally organized ones. Plains are composed by the degradation of hills and mountains, and soils by the degradation of coarser and harder materials. Of course a knowledge of the elevated regions of any country, enables the geologist to foretell the character of the plains; and an examination of the soil of the plains unfolds the nature of the mountain ranges above.

**DEW.** The water which is deposited from the atmosphere upon the surface of the earth, is called dew, and is always most plentiful when the nights are calm and serene, and the sky cloudless. Winds or clouds prevent the formation of dew; and if the surface of the earth is below 32°, the dew as it falls is converted into frost. The formation of dew depends on the radiation of heat, and the radiating surface is always cooled below the surrounding atmosphere, before the deposition of dew takes place upon it. All circumstances that favor radiation favor also the deposition of dew, and any cause that prevents the radiation of caloric, or intercepts its escape, prevents its formation. Glass as radiating freely, is covered with dew sooner than most other substances, and gravel is sooner moistened than grass, though owing to absorption the apparent quantity is not so great on the first as on the last. The quantity of dew deposited is also in some degree depending on the quantity of vapor in the air. Thus every one is aware that on some summer days, of equal temperature with others, and with water of the same degree, tumblers filled with it, will exhibit a much more copious deposit on the outside, than they will on others. This is a proof that the air is filled with vapor, and is one of the most certain signs of approaching rain. Dew acts an important part in the processes of agriculture, and in the nutrition and growth of plants. Large quantities of the most active agents escape from the earth during the processes of decomposition and evaporation in the shape of gases, and these combined with the aqueous vapor are deposited with the dew on the earth or on the plants, and in either case are available to nutrition. Hence the advantage of frequently stirring the earth, and keeping the surface in a pulverized and absorbing state. In some parts of the world it rarely rains, but the dews are so copious, that vegetation does not seem to suffer from want of water. Spreading a substance, no matter how flimsy, as a thin cloth, over vegetables, will preserve them from severe frosts, if it is not allowed to touch them; acting by intercepting the heat. Every one has observed that plants liable to destruction by frost remain green much longer under the shade of trees than when exposed. Thus potatoes planted in an orchard, will be unhurt by frost as far as the branches of the trees extend, while the tops in the uncovered spaces will be wholly prostrated.

**DIBBER, DIBBLING.** In England where the saving of seed grain is a greater object than the lessening of labor, wheat and other grain is frequently sown by the process of dibbling. The implement called a dibble, is formed of two sticks shod with iron, with spade handle tops, and kept separate at the bottom at the distance which it is intended to have the rows apart, by a bar with a joint at each end. The dibbler walks backwards, and with the implement in his hands makes two rows of holes at the proper distances. Two children follow to drop the seed in the holes, and the whole is covered with a light bush harrow. An expert dibbler with two children will put in half an acre a day. Of course the soil has to be put in good order previous to the commencement of putting in the seed. The advantage of dibbling is that three-fourths of the seed is saved, three pecks when well put in being an abundant seeding for an acre. If weeds spring up, they can be pulled by hand, or cut with a narrow hoe; and the wheat standing regularly and without being crowded, produces a finer grain, and gives a better yield. Dibbling has never been practiced in this country, the price of labor, and the comparative cheapness of grain, rendering it useless. We are not in the habit of using the quantity of seed wheat per acre that is considered necessary in Europe, from eleven to fifteen pecks being used there, hence the inducement in the saving of the seed which induces dibbling there, has no existence here. Experiments show that in a good soil, three or four kernels in each hole, gives a greater yield, than when a smaller or a greater number are dropped. Dibbling has been principally practiced in the county of Norfolk, but it is gradually giving way to the practice of drilling.

## A WOMAN WORTH HAVING.

In Mr. Morrison's centennial sermon at Peterborough, N. H. he says,—“Early in our history, the hand card, the little spinning wheel, and the loom with the hand shuttle, were almost the only instruments of manufacture in this place. The grandmother of General Miller paid for four hundred acres of land in fine linen, made entirely (except getting out the flax,) by her own hands.” The Gen. Miller here spoken of, is the hero of the Battle of Niagara or Lundy's Lane, in the last war; and should war again threaten our borders, or our institutions be placed in danger from causes, within or without, it will be the children of such mothers, the free, uncorrupted, hardy sons of the country, that will prove its safeguard. From the feeble, enervated, children of luxurious idleness, men cannot be reasonably expected.

## Foreign Notices.

*The Farmer's Magazine* for Sept. received by the British Queen, furnishes us with the portrait on steel, of "Clementi," owned by R. M. JAQUES, Esq. of St. Trinians, Yorkshire, which took the prize of 15 sovereigns as the best Short Horn bull calved since first of January, 1838, at the Cambridge meeting of the Royal Agricultural Society. Clementi was bred by Mr. Parkinson of South Clifton, Notts. His dam Cassandra, by Miracles, and his sire Cossack, (1880 in the Herd Book.) The bull calf "Collard," sold at the Babworth sale for 200 guineas at 8 months old, is own brother to Clementi.

**YORKSHIRE AGRICULTURAL SOCIETY.**—The annual meeting of this institution, second only to the Royal Society, was held at Northallerton, on the 5th and 6th of August—Earl Spencer, president of the Society, officiating. The attendance was unusually large, and the exhibition is said to have been decidedly superior to any former one. The handsome sum of £645 (nearly \$3,000) was awarded in premiums on Short Horn cattle, Leicester sheep, horses, pigs, poultry, implements, draining, grains, &c. "This noble sum was ably contested for in the various classes. In Short Horned cattle there was probably no exhibition ever produced in England equal to it, either for number or beauty of symmetry. This we have the authority of many excellent judges to declare was the case. The display of sheep, although not great, excited the admiration of the agriculturists, and the pigs were remarkably fine animals. The horses attracted great attention; the entire horses were very numerous, and many of them presented many good points. The brood mares and young horses were also greatly admired." The premium of £30 for the best Short Horn bull of any age, was awarded to F. H. Fawkes, Esq. of Farnley Hall, for his "Sir Thomas Fairfax." £20 for the best 2 year old, was awarded to Mr. Wm. Raine for "The Colonel." The premium of £20 for the best Short Horn cow of any age, was awarded to Mr. T. Bates, Kirkleavington, for his cow "Oxford," the dam of the bull calf recently imported by GEO. VAIL, Esq. of Troy. Several of the smaller premiums for Short Horns were awarded to the Rev. J. Higginson, of Thormanby, Thirsk, who also had the good fortune to receive a number of other prizes on horses, pigs, extra stock, &c. among which were the premiums "for the best sow, large size," and "for the best boar and sow, small size." "The grand dinner," which forms a part of all such exhibitions in England, was given in a spacious pavilion, capable of accommodating 1,400 persons, and was attended by upwards of 1,200. The speeches, as usual on such occasions, were mostly of a complimentary character, and would afford little interest to our readers, could we copy them at length; it is therefore with less regret that we find ourselves limited to a few brief extracts:—

**AGRICULTURAL SCHOOLS.**—"W. Mauleverer, Esq. said he was glad to find that the propriety of forming an agricultural school had engaged the attention of the committee. During his recent absence in France, he had visited the Royal Agricultural Institution, about twenty miles from Paris. This establishment was founded in 1829, by Charles X.; and its results had been a material and positive benefit with regard to agriculture. There was also an experimental farm attached to the institution; it was established in joint-stock shares, and had been the means of enabling many young men to obtain an advantageous livelihood, who would otherwise have been in obscurity and indigence. He then read some extracts from the prospectus to this institute, and observed, that if something of the same nature was attempted in shares of 10*l.*, 15*l.*, or 20*l.* he had no doubt a sufficient sum would be speedily raised, and that the institution would be supported."

"The chairman, Earl Spencer, said he had some doubts on the advantage of an experimental farm, but he had no doubt whatever of a school of agriculture, providing the difficulties could be overcome in establishing it. With reference to an experimental farm he had a greater doubt, because it could be experimental only for that farm. His own opinion was, that a greater improvement might be effected in agriculture by the assistance of intelligent farmers than by the establishment of experimental farms. He alluded to the importance of the Highland Society and the great improvement which it had produced in the agriculture of Scotland; he then observed that he trusted the principle on which agricultural societies were formed, to combine scientific improvement with the exhibition of stock would be beneficial. With regard to the veterinary art, with the exception of the treatment of horses, every thing was in a most backward state. He was happy, however, to say, that the English Agricultural Society had allied itself to the Veterinary College in London, and secured the delivery of lectures on the treatment of cattle. He could assure them that any gentlemen who had cattle afflicted with any disease which the local farriers could not comprehend, on sending up a statement of the symptoms to London, it would receive every attention."

"Sir R. Bateson observed, that for 13 years they had had a model farm and school in the North of Ireland, which had been attended with very beneficial results. They had now 72 pupils on the books, and between three and four hundred pupils had left the school, from all of whom they had received favorable accounts of their progress in the world. He detailed at some length the satisfactory state of the school, and in conclusion

returned thanks for the interest taken in Irish affairs by the Yorkshire Society."

**AGRICULTURAL PURSUITS.**—"If I might be allowed to express my own opinions, I should say that the pursuit of agriculture, the cultivation of the land, and the improvement of the fertility of the soil, is one of the most delightful and most instructive, and the most honorable pursuits in which a man can be engaged, and not only leads him to contemplate the wonders of creation and the works of nature, and of nature's God, but it also enables him, by the aid of successful industry, and by the application of science, to effect improvements which, under the blessings of divine Providence, cannot fail to be advantageous both to the age in which he lives and the generations yet to come."—W. DUNCOMBE, M. P.

"You are all aware that in the course of my life—now not a very short one—I have applied myself to many and various pursuits, but I have at last come to that which I believe to be my natural one—I mean the improvement of agriculture—the promoting of agriculture by my own endeavors, and by assisting the endeavors of others. Mr. Duncombe told you it was a pursuit worthy of being followed; I will tell those who are entering upon life that they will find no pursuit which gives more satisfaction—I will say they will find no pursuit which will give so just an occupation of their time with less annoyance and less disturbance to their tempers. No other in which they will feel such full satisfaction that they are doing good in pursuing their own pleasures at the same time that they are improving the cause of agriculture. It is a pursuit to which one and all of us should wish success. It is one of those pursuits which is most delightful to follow; it is a pursuit which may be carried on without time ever hanging heavily; an occupation interesting in the highest degree, and while the agriculturist is promoting his own interest, he also promotes the interest of every one of his neighbors."—EARL SPENCER.

**PROTECTION OF SHEEP.**—"The point which my very few observations will embrace is the extraordinary increase in the growth and condition of sheep by being fed under cover, in an open yard, with a shed in it. This idea had no doubt occurred to many others besides myself, but I am not aware that any one has so fully examined into the effects attending that inquiry as I happened to do in the course of last winter and the winter before. Gentlemen, the principle is one that we have acknowledged in every practical way, by every thing that eats, namely, that if it has plenty to eat, is warm, and has nothing to do, it is very likely to increase. I certainly was not aware, until by repeated experiments I tested the truth of it, namely, that the same animals when placed in the shade and kept warm, not only increased rapidly, very much more rapidly in their condition and weight than out in the open air, but also that they consumed a much smaller quantity of food. This I have tested, both last year and this. I have not the papers by me to refer to, but as far as my recollection goes, it is this, that the quantity of food consumed was less by at least one-third, and that the increase of weight was fully one-third, taking it in round numbers. At the beginning of the season I built a shed which will contain about eighty hogs (a shed which will serve for cattle as well,) and merely put down a few rough planks for the cattle, as I have found that it is a great advantage to have boards to lie upon and if they had straw, and it was to get wet, they would be liable to get the rot in their feet. I brought those animals up last Christmas, and I found that before two days had elapsed they did not eat so much as when they were out of the fold, by the proportion of five to three. When in the fields they eat fifty basketsful of turnips, but when brought up they eat only thirty a-day, therefore their improvement was in the inverse rate of their cost. Yet such great progress did they make that you would have thought they had been eating fifty baskets a day when shut up, and only thirty when in the field. I gave them with their turnips a little oilcake, and certainly the size they grew to was so very great, that at thirteen months old I sold them without their wool for 37*s.* a piece—and I really believe that if the turnips were pulled and brought into the shed they will go twice as far as when consumed in the field."—J. W. CHILDERS.

**KENTISH SHEEP.**—We saw some specimens of the breed of sheep alluded to in the following extract, at Rochester a year or two since. They were brought from England by Mr. S. W. SHOTTER, then a resident of Pittsford, but now we believe residing at Stamford, U. C. "A few days since, observing some sheep which displayed a very beautiful symmetry, on board the steamer Tamar, we made some inquiry and found that they belonged to two gentlemen named Denne. These sheep are of an improved Kentish breed, and are from the celebrated flocks of Mr. John Palmer, of Herne, near Canterbury. Great trouble has been expended upon this breed, which has been brought to such perfection that the fleeces weigh upwards of six pounds, and a six months' fleece weighed four pounds and a half. Notwithstanding the great weight of the fleece, the staple is uncommonly fine and strong, so much so that for some years past the whole of the wool has been purchased for the French manufacturers, at prices varying from 2*s.* to 2*s.* 3*d.* per lb." "Messrs. Denne, who were farmers and graziers to a very considerable extent in Kent, have obtained these sheep with a view of crossing them with the Merino and Saxon breeds in this colony, and so highly are they esteemed by competent

judges, that ten and twelve guineas have been offered for rams of the first cross with Merino ewes. Lord Western, the celebrated breeder of Merino sheep, has, we are informed, lately turned his attention to this improved breed of sheep, and is now crossing them with Merinos, with the view to the production of a long and strong wool."

**BERKSHIRE HOGS.**—We copy the following paragraph from a notice of "Low's Illustrations of Domestic Animals," in the London Farmer's Magazine:—"The drawing of the old English sow, and the Berkshire, show admirable specimens of the effect of art, in deriving from these originals our present improved breeds. The aptitude of the hog in receiving alterations is wonderful; so that every county, and almost every parish, has now a separate breed of that animal. The size has been much reduced to suit the taste of large towns, and in doing so, there has been sacrificed, as usual with other animals, the mixture of fat with the muscular fibre, the property of fecundity, and of nursing a numerous progeny. For bacon, a large sized animal is indispensable, and for finer purposes we have now many excellent smaller breeds. The Berkshire breed we have always regarded as our best for general purposes, as combining both useful size and quantity. The drawing here given of the old breed, shows the straight back, round carcass, and square form, broad chest, and short neck, which form the points of excellence at the present day. It would be desirable to get rid of the black color in the present breed, for we think that of all colors, the white is the most agreeable in all animals, as pigs and poultry, where the skin is allowed to remain in cooking." The latter part of this extract would seem to show that notwithstanding what has been said about white Berkshires in this country, in England such a breed of pigs is unknown.

**THE CROPS IN ENGLAND.**—According to the monthly Agricultural Report for August, in the Farmer's Magazine, "the grain crops, and particularly wheat and barley, were in many districts, fine almost beyond recollect'd precedent." "With respect to this year's growth of wheat," says the editor, "we have come to this mature conclusion, viz: that it will come up to a fair average for the kingdom, and prove the fairest as to quality, ever gathered."

**LAME FAIRS.**—Annual Fairs are held at stated places in various parts of Great Britain, for the sale of stock. We notice reports from several Lamb Fairs held in the month of August, at which the number of sheep present will astonish those unacquainted with these Fairs; for instance, at the Arlesford Fair, 46,000 sheep were present—at Melrose, 70,000, and at Ipswich, 110,000 sheep and lambs were penned.

**AGRICULTURAL MUSEUMS.**—"It will be interesting to our readers at a distance to be informed, that the Messrs. Drummond have, in the course of the present year, erected a large new building, and that the Stirling Agricultural Museum is now, in fact, one of the most prominent and elegant edifices in the burgh. It is situated in the lower part of the town, is of an oblong shape, composed of four flats, and adorned in front with a remarkably chaste and elegant portico. The museum is principally contained in the upper part of the building, in two spacious halls, each measuring about 160 feet in length, and 21 in breadth. The eastern windows of the upper hall command an extensive prospect, comprehending the whole course of Stirling, with its beautiful boundary of the Ochils on the north, and reaching to the distant line of the Pentlands in the extreme southeast. It would be impossible, nor is it necessary, that within our present limits we should attempt to give any details of the contents of these elegant rooms. Few of our readers are unaware that the most prominent objects in the Museum are the agricultural implements, (the collection of which, is probably unequalled in extent and completeness, either in this or any other country,) the collection of seeds, roots, and plants, from all quarters of the globe, and models of almost every object of interest or value to the agriculturist."

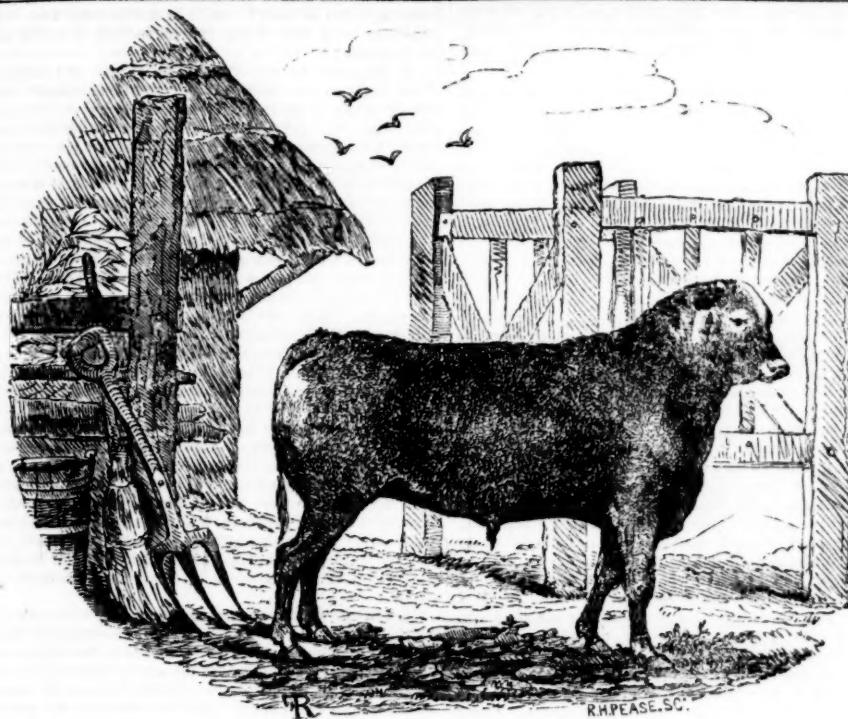
## DEATH OF DR. PERRINE.

Extract of a letter from a gentleman at Jacksonville, East Florida, dated 24th August, 1840, to his friend at Lansingburgh:—

"If you have tears to shed, prepare to shed them now! Your Botanic friend PERRINE is no more. He was cruelly murdered by the Indians, a few days since, at his residence at Indian Key. The Indians, about 150 in number, effected a landing on the Island, from their canoes. They were fired upon by a Lieutenant from a gun-boat, and would have been beaten off, but after three or four shots, one of his guns burst, and the other went overboard, it is supposed from excessive charging. The Indians proceeded to the work of destruction. Perrine, after concealing his family, armed himself, and went out to assist in the defense, but was immediately killed."

"As a man of useful science, of ardent patriotism, with equal talents to effect his country's good, with a commensurate desire to apply them to that purpose, he has not left his equal behind him. He has struggled through more obstacles, and overcome more opposition to effect his benevolent designs, than would have discouraged any other man; and he had overcome every impediment but the Seminole war. He had his wonderful collection of exotic plants, flourishing in high luxuriance; and was waiting with calm solicitude for the time when he could take possession of the land which Congress had granted him, to mature and display the result of his long and painful labors."

## Communications.



"BEAT THIS IF YOU CAN."—Fig. 83.

MESSRS. GAYLORD & TUCKER—I concluded the few remarks I appended to the portrait of the heifer "Oneida," by reference to a sketch in my portfolio, made some time since from a large lumpy animal, whose owner considered him the "ne plus ultra" of calves. I now send you the portrait on the block, ready for Mr. Pease, and if he does me as much justice as he did in cutting the bull "Dallimore," I shall be satisfied. I was originally induced to make the drawing to oblige the gentleman who bred this young giant, and afterwards preserved it, because it so well illustrated a *particular point*, which I considered almost inseparable from certain other general form and qualities, of all which this calf was an excellent illustration.

His head was round, short and vulgar; the neck heavy, and shanks coarse; the points of the shoulders large and projecting; the blade bone thick and laying out full; the crops low, with a deep hollow behind the shoulder; the body very long, and, as is then too commonly the case, not ribbed up close; the hind quarters short, the rumps low, the buttocks large and round, the flank thin, and the hind leg rather crooked; joints big, and hair harsh, but it was *red*, with but few white marks about him. Here was size enough, and he claimed to weigh 614 lbs. at six months old; still I considered it in an unprofitable shape, for with that particular form I had usually found the following qualities:—an iron constitution, a hard muscular covering of flesh interspersed with very little fat, a thick hide, poor handling, slow feeding and no proof.\* Such animals preserve a certain amount of muscle under the hardest usage, and add but little of value to it with the most generous feeding; you find them "always fleshy but never fat;" it may therefore be readily conceived, that in the starved herd of the niggard, who calculates, as a matter of course, to "tail up" his cattle in the spring, that such a description of beast would be invaluable from the mere fact that he can "get up alone;" but in the yard of the farmer, who from both humanity and interest, feeds a sufficiency of hay to his stock, he will be found a most greedy and profitless consumer.

I will now ask the attention of the Short Horn breeders to this *said point*, before alluded to—which, meet it where I will, my experience and observation has led me to view with much jealousy, nor is my distrust laid to rest, by either pedigree or pretension, however high or however conclusive these may appear to the minds of others. I allude to the "os-sacrum" when it forms an uneven line, in continuation of the back and loin, just before the setting on of the tail; for this peculiarity, small as it may seem, most or all of the other characteristics, as seen in the drawing, will be combined in a greater or lesser degree. On examination, this bone in the present instance, will be found to be somewhat rising as well as uneven and short, which obliges the tail to spring from a point nearer the loin, thus shortening the hind quarter; the bone at the point of the rump will also be found large, round and bare of flesh, as though the skin were stretched tightly over it; and when in ordinary condition, it is without a particle of that soft interposing fatty substance, so indicative of a kindly feeder and good handler; and yet I must confess I have seen it in American animals claiming to be of the

purest Herd Book family, and for which liberal prices have been paid. I am, however, inclined to believe that this particular form, together with the big buttocks, resulted from the earlier crosses of the Yorkshire and Holderness blood, and does not belong to the more improved animal of the present day.

But to return to the question of sizes. I am aware that the prejudice in favor of great productions is very strong with the agriculturist, and that numerous instances may arise at once to his mind, where great excellence and great size are combined; these I must beg leave to consider as the exceptions; the rule being, in my opinion, that a monstrous calf makes a coarse, unprofitable animal, long in arriving at maturity, slow in feeding, and carrying great offal. In these views I am the more confirmed by the experience of others, as I observe that in nearly every case of improvements, the size of the original breed has been reduced; it would therefore seem as though early maturity, beauty of symmetry, reduction of offal, and rapid growth has only been attained by diminution of superficial size.

Bakewell, in producing his celebrated breed of sheep, diminished the size of the Leicesters; and I believe the subsequent improvements made on the Lincoln, Cotswold, and other long woolled sheep, by the Dingley cross, resulted in a more compact animal, though often times more reduced in apparent size than in the actual weight of meat. The improvement of the "long horns," by the same breeder resulted in the same attendant circumstances; and the "New Leicesters or Cravens" occupied less space than the old breed. Colling did likewise when he made improvements on the Teeswater and produced the "Alloy." And I have been informed by a very intelligent observer, who is well acquainted with the subject, that, when lately on a visit to Thomas Bates, Esq. of Kirkleavington, (who has perhaps more fully carried out Mr. Colling's principles of breeding than any other individual,) he found nothing at first particularly striking in Mr. Bates' herd of Short Horns!—on the contrary he even thought them deficient in size and wanting in attraction! but on a closer examination, their excellencies grew upon him; they were just in all their proportions, their symmetry so perfect, their substance so great, with such compactness of form, and shortness of leg, that they proved to be *large animals in a small compass*; and my friend's eye, soon becoming corrected as to their *true size*, rested with increasing admiration on the herd before him; nor did he longer wonder at the successful exhibition of this stock at the great Oxford meeting in 1839, when it beat the best short horn herds in England.

In speaking of the course of Mr. Bates' breeding, I would not be misunderstood; for that gentleman was not the copyist but the contemporary of Mr. Colling, with whom he lived on terms of friendly intercourse; and as breeders, they indulged a free interchange of views and opinions. It was not, therefore, surprising that they arrived at the same conclusions, pursued the same means, and aimed at the same results. Those who feel an interest in these subjects will find much that is curious and instructive in a close examination of Mr. Bates' course of breeding; which may be done by reference to the Herd Book, and by a little subsequent arrangement of the materials we will there find—such an investigation is the better worth pursuing since the awards of the Royal Agricultural Society in 1839, have borne

such ample testimony to its success. Those who make this analysis may have to acknowledge that "close breeding" in competent hands is the acme of the science, whereas it is the ruin of the novice, or indeed of any but the most experienced and skillful.

R.

Butternuts, Otsego co. Aug. 19, 1840.

## ADVANTAGES OF DRAINING.

W. GAYLORD, Esq.—Dear Sir—Yours of the 23d ult. is received, and in answer to your inquiries\* respecting the piece of land to which you allude, I would say, that the field contains seven and a half acres, which previous to the year 1837, was never plowed, and was so wet as to be useless, except for pasture, and on almost one-half of it the grass was wild, coarse water grass, which no animal would eat, except for a short time in the spring. The soil, a sandy loam, resting on a stratum of gravel and pebbles, cemented together by clay, the whole being impervious to water. The ground sprung so much so, that in the early part of the year, a little exertion of a man when standing on it, would shake the ground for yards around. To reclaim this ground, in the summer of 1837, I caused about two hundred rods of stone underdrain to be made on it, at an expense of about fifty cents per rod. The drains were made too wide, consequently it cost more to dig and fill them, than it otherwise would. The drains were so placed as to cut off the springs before they broke out on the surface, or as an Englishman would say, "they were cut between the wet and the dry." The drains were dug from two to three feet deep, and stoned by laying first a row on each side of the bottom of the ditch, leaving a space of about four inches between them, for the passage of water; then capped by laying a larger stone on the top, and for these cap stones I prefer cobbles, as they prevent the side stones from being pressed or falling together; then filled in with smaller stones, until the top of the stones were within twelve inches of the top of the ground; then put on a small sprinkling of straw, just sufficient to prevent the earth falling among the stones—more than this I consider injurious, as it furnishes a harbor for mice; then filled in the earth until it was raised somewhat higher than the original or adjoining surface.

In the spring of 1838, I gave the field one plowing, sowed four acres with barley, (it should have been planted,) planted two acres with potatoes, one-half acre with corn, and one acre with ruta baga, (this acre plowed twice,) all without manure. The produce of this first year was about 100 bushels of barley, 600 bushels of potatoes, 20 bushels of corn, and 600 bushels of ruta baga.

In the spring of 1839, I gave it one plowing, and sowed seven acres with Italian Spring Wheat, and the remaining half acre with Whittington Wheat. The latter proved a total failure, from the fact that the Whittington, in this country at least, proves to be a variety of winter, and not a variety of spring wheat, as was supposed. The Italian grew very large, was lodged badly, and consequently was somewhat shrunk. The part sown after barley was much inferior to that sown after the planted crops. The wheat was deposited in my barn with the produce of other fields, consequently I cannot give the quantity except by estimation, but I should not greatly err in rating the product at fifteen bushels per acre.

Last spring, (1840,) I covered the ground with wheat straw, and plowed it under; a man following the plow, and with a fork placing the straw in the furrow—harrowed thoroughly, and planted with corn, (except three rows of potatoes around the field,) three and a half feet each way. The corn and potatoes have been hoed twice, and the crop you have seen. I will only add, it has gained much in appearance since you saw it.

Underdraining, I consider one of the greatest improvements in modern farming; for without it, wet land cannot be cultivated profitably, because tillage crops cannot be obtained; consequently rotation of crops cannot be practiced; and clover, that great fertilizer of the earth, that which fills the fields of the farmer with fat cattle and his barns with hay, and the earth with manure, will not flourish. But in order that underdraining may have the desired effect, it must be properly performed. And the greatest skill is required to know where to dig the ditch, for one drain properly placed, is of more service than many improperly situated. On this point, I know of no better general rule "than to dig between the wet and the dry;" by which I mean, cut off the springs before they break out on the surface of the earth. Where the wild uncultivated grasses spring up, there is an excess of moisture, which needs an underdrain to correct the humidity and consequent coldness.

As to the depth, I would never have them less than two feet, and would generally prefer to have them deeper. The width should be graduated to the size of the stones used for filling, as large stones require a wider drain cut than smaller ones. The width of the drains I have cut this season, is fourteen inches at the surface, and just broad enough at the bottom to permit the free use of the common farm shovel. They should be filled

\* The nature of the inquiries will be understood from the reply of Mr. M. They related to the mode and expense of reclaiming, the nature of the ground, the course of cropping adopted, and the results. The original character of this piece of land may be still further seen in an article, page 138 headed "Among the Farmers." Mr. Marks assures us that this piece of ground is now fit to plow, either in the spring, or after heavy rains, sooner than any other part of his farm.

\* Proof is a butcher's term used to express the amount of tallow obtained from an animal.

as soon after being dug as circumstances will permit, as the falling of rain causes the sides of the ditch to fall in. All loose earth at the time of stoning, should be carefully removed. In no case should the ditch be left open through the winter.

After the drains are completed, occasional attention will be necessary to keep the mouths of the drains clear, and free from obstructions, so that the water may pass off freely. It will also be necessary to close all holes made by mice, or in other ways, which would let in water directly from the surface, as water running in through openings in the upper part of the drain, carries in much earth, which by filling the drain, or partially obstructing the free passage of the water, has a tendency to destroy it, or much impair its utility. As the drains become older, the earth used for filling becomes more compact, and the danger of breaks or holes in the surface is consequently diminished.

I have thus endeavored to reply to your inquiries, and if in doing so I shall be the means of calling the attention of my brother farmers to the subject of draining, and they should be induced to reap the advantages attendant on skillful and thorough underdraining, I shall be amply compensated for the trouble of penning the foregoing statement.

With respect, your friend,  
E. MARKS.  
Nararino, Onondaga county, August 6, 1840.

#### NOTES OF A TRAVELER.

MESSRS. GAYLORD & TUCKER—I last year and this, made an excursion to the eastward of the state, in the month of July respectively, and was somewhat surprised to find that although we are nearly one degree farther north than Albany, and all of another by the height of land, (the level of Lake Erie being just 550 feet above the level of tide water on the Hudson,) still I saw comparatively no difference between the field crops of small grains, roots, grass, and even corn, as far as it had advanced in these respective neighborhoods, viz., the shores of Lake Erie in this town, and the flats and hills of the Hudson river, in Albany; and yet the soil of the latter place is generally sand and gravel, with alluvial, whereas here it is loam and alluvial, more often than otherwise resting on a hard tenacious clay, but the top soil, partaking, probably, somewhat more of vegetable matter here, than at the east of us. I should really like to see a disquisition from yourselves, or some of your scientific correspondents, why the dry hot sands of Albany, are not more forward in the common field crops, than the clays and loams of Buffalo. In fruits I noticed a decided difference, probably nearly a fortnight in some particular kinds; in others about a week. This cannot be wholly explained, by saying that those of Albany are of an earlier variety, because the Isabella grape does not ripen here in the open air, scarcely once in six years, whereas in Albany, I believe it is pretty sure to usually do so every season. The most forward county in general crops, I found to be in both years that of Onondaga. Here, even on the canal, the wheat was quite as ready for the harvest as the rye of Albany, and yet the latter grain is considered all of ten days in advance as a crop. Corn also, was more forward here than I saw it elsewhere, and I will add of a stouter and more even growth, and yet, this is farther north, even, than Erie, though the canal level is not so high by about 150 feet. I think the dry porous limestone of Onondaga, will account for the precocity of its crops. Last year I noticed that the corn here and on the rich Mohawk flats about Utica and below, were nearly the same, but this year Onondaga is much in advance, principally I suspect, in consequence of the heavy spring rains and high waters of the Mohawk, which must have delayed planting. Below the mountain ridge at Lewiston, and on the Niagara river to Lake Ontario, though by situation and height of land, it must be full equal to two degrees of latitude north of Albany, yet there I suspect fruits are even quite as forward, but their top and subsoil, is lighter there than here, and they are also better shielded from the cold western winds, and also 300 feet below us.

Of the crops generally, I found them very promising; grass and grains heavy, and of first rate quality—the only fear was of roots. I suspect that the late rains must have wholly dispelled this, and have no doubt but the harvest of 1840 will be remembered as a very bountiful one throughout the land, for which may all have grateful hearts to the kind Providence that sends it.

The great question three years ago was, where shall we find food to fill our mouths? The most general one I suspect this year will be, where shall we find mouths to eat the food? The statesman would answer at once, multiply manufactures, \* \* \* \* \*; but this is a political theme, the discussion of which would probably be considered more appropriate to the columns of other periodicals. I will therefore drop it, and merely advert to that which is strictly agricultural. Here then, are improvements wanted, that have been long and loudly called for, the most important of which is in the department of stock. Never was a nation with a greater abundance beforehand, or more eligibly placed for experiments in this line than ours, and it will be an everlasting shame and disgrace to us, now at the very low prices of all sorts of subsistence, that we do not generally enter upon them. There is not a race of domestic animals, or a kind of birds, from the noble horse, down to the timid rabbit, and the strutting turkey to the busy scratching hen, that does not want improving an! regenerating, and now is the time to set about it. Look at England and her great excellence and advance in this

particular. Her improved stock is not only a source of great wealth, power, happiness and comfort to her own citizens individually, but it is now entering largely into her amount of exports, and the whole world is constantly going to her for that which, with a little previous enterprise, might have been furnished at home. However, this is necessary to begin with, and it is better to commence it late than never.

Among the recent importations for improvement that have taken place in this state, is that of Hereford cattle and Cotswold sheep, by Mr. CORNING of Albany. Attracted by the letter of Mr. SOTHAM, that appeared in the July number of the Cultivator, when down last month, I made an inspection of these superb animals, that gave me a very different opinion than I have heretofore entertained of these breeds. All other Herefords that I had previously examined, in comparison with these, though noble in appearance, had large heads, thick necks, narrow hips, and thin loins, compared with the best Short Horns, but these nearly approach them now in all such particulars, especially in the great width of the hip bones, showing a capacity when well fed, to place their meat in those parts where it is most valuable, and I cannot but coincide in the remark of one of our most distinguished breeders of Durhams, "that on the right soil, they would give the Short Horns enough to do to maintain their present high position." But how are they enabled to accomplish this? Why only by approaching Short Horn perfection in these particulars. Yet at present they are only the graziers' and butchers' stock; for though Mr. SOTHAM talks of their good milking qualities, I must confess that though I eyed them sharply, and handled them closely, I was not favored by any such discoveries in their veins, nor did the appearance of their udders make up at all for this deficiency, and I should require some proof of the fact, before I could be convinced that even in comparison with our good native dairy cows, they could be called even fair milkers.\* It is apparent, therefore, that in the general purposes of improving our native stock, that the Herefords cannot be rivals to the Durhams, at least till they are still farther advanced to good milkers, which will then make them but in fact another race of improved Short Horns. Yet if the Herefords yield to the Durhams at the dairy, in the yoke they must be far superior to any other of the ox kind, for they have nearly the quick step, the fine bone, the sinew and muscle of the Devon, with a much greater weight and size. I could not but admire the great length and rotundity of the barrel, the smooth, powerful structure of their frames, and clean elastic limbs. In fact as workers, they seem to me to be happy medium in the race of oxen, that I am so desirous of seeing cultivated more generally in horses; neither the light mettlesome racer on the one hand, nor the slow, fleshy cart horse on the other, but the superior and more happily mixed general utilitarian. To those who are breeding working oxen, or stock expressly for the butcher, I would strongly recommend these Herefords. I should think them particularly well adapted to the rich interior of the Western States, where cattle must be driven a great distance to market. In that case the blood of the Devons, to which the Herefords are so nearly allied, could not but tell like that of the thorough-bred racer on the course.

The Cotswold sheep, I found much finer in the head and other points, than I expected to see them; they are also very large, and the amount of wool they are said to shear, is almost incredible. I cannot, however, but think their mutton would be too gross; and I doubt whether they will ever find the general favor in the American market, that South Down does. There is this difference between the consumers of English and American mutton, in the former country, being cheaper than pork, it is salted down by the poorer classes, to be eaten instead of it, here we rarely salt mutton, but eat it fresh; it is therefore desirable to have it as tender and lean as possible, qualities in which the South Downs are far superior to any other breed of sheep that I know of. I should like to see a show between Mr. CORNING's Cotswolds, and Messrs. DUNN's and ANCOCK's Leicesters. Are we never to have a State Agricultural Meeting and Fair for these and other purposes, in the pleasant month of September? Nothing in the world could be so beneficial to the agriculture of New-York, as this; or more surely aid its stock improvements. It is a crying shame that we

\* Since penning the above, this month's No. of the Cultivator has come to hand, containing Mr. BENTON's excellent article on Herefords; in which their merits, as well as Devons and Durhams, are very candidly stated. He seems, however, to be of the opinion, that the Herefords may be "fair" milkers; but what is "fair"? I hardly think seven quarts per day for a good sized animal, even though a heifer six months after calving would be so considered in a dairy district, unless the milk should prove of a particularly rich quality. I have a cross of the Devon and Durham, half and half, three years old in May, and rather small of her age, and that dropped her first calf last March. She gives now on rather poor pasture, seven quarts per day, of milk almost as rich as cream; but three-fourths, or seven-eighths Durham, of milking families, I think would double this quantity of milk from the cows, and of such a cross I am greatly in favor, and am of opinion, it will eventually be the most popular animal in the northern states. As I understand it, Col. Jaques thus got his famous Cream-pot breed, for he put a Short Horn bull of a milking family, to a red native cow, that undoubtedly descended from the Devons, originally imported into Massachusetts. When I had got the cross three-fourths or seven-eighths Durham, I should then breed them together. There are crosses of Mr. Rotch's Durhams with the native stock in Otsego county, that give over thirty quarts each, per day, of a most excellent quality of milk.

should be so far behind our younger sisters, Ohio and Kentucky, in these respects.

An excellent correspondent of the Tennessee Southern Cultivator, makes the following remarks—"A few years ago, if a farmer, dressed in his jeans clothes, happened, in what was called genteel society, to speak of his bullocks, his lambs, or his pigs, noses were turned up at him, and he was considered vulgar and insipid. But a reaction has taken place in public sentiment, and now it is the common conversation of fashionable circles; and you will hear fluent discourses on Durham cattle, Leicester and South Down sheep, and Berkshire and Irish Grazier hogs." This change, I am glad to say, is pervading the north as well as the south, and is even found to have inoculated the softer sex; and as evidence thereof, I shall quote two instances. A party of gentlemen was recently looking over a herd of Short Horns, when the name of an individual cow was asked for; the owner himself could not tell without going to the house to appeal to his books, when turning to his daughter near by, she replied, "Oh, that is Moss Rose;" and in answer to a letter on the subject of stock, that I addressed to a correspondent not long since, in his absence, his wife, in a beautiful Italian hand, replied quite as satisfactorily as I could have expected of the gentleman himself. But to the subject in hand.

Perhaps one of the most attractive objects in Albany to the stock grower and agriculturist, is Mr. LOSSING's pigery, in the upper part of Washington-street. I always visit it with pleasure, not only to have a Berkshire talk with the owner, but to gratify my eye with a view of the noble grunting that are so comfortably provided for. The animals here, are really choice, and each in its style, a capital study to any one the least desirous of forming his taste, or improving his breed of swine.

The readers of the Cultivator are pretty well acquainted with the queen of the *harem*, the renowned Maxima, from the faithful portrait given of her in the May number, and it may be sufficient for me to add, that she is all that is there represented. Indeed it is quite impossible for any engraver to flatter a well bred Berkshire, for no portrait can do justice to the harmony of their fine points, the sleek rotundity of the barrel, and the depth and massive thickness of the ham; yet if Maxima excels, as her classic name intimates, in size, the gentle Peggy may be said to do the same in symmetry of form; and Mr. Lossing tells me that the produce of the latter, very often approaches the former in weight and dimensions. This I can readily believe, for with the right kind of male, I have several sows in my pigery of a medium size only, that will breed up to any thing I ever saw, and their stock is as fine and as finished as a piece of statuary.

The Teal sow, as well as the boars brought over from England to Mr. L. in the fall of 1838, I found greatly improved as they had grown up. Reading is the longest, and perhaps the largest, but Newbury excels in fine point, carries great weight for his inches, and is remarkable in his hams; but out of a number of pigs that I have had of their stock this season, I do not discover much difference; either are good enough and large, and doubtless both boars will best suit the respective localities, where they are now flourishing in glory, the former having been sold to Mr. BEACH of Ohio, and the latter remaining with Mr. Lossing. I consider them as great acquisitions to the stock of the country, and certainly the public ought to feel under many obligations to Mr. HAWES for first introducing this king of his species to America.

But will it be believed, that during Mr. H.'s stay in Albany, which was for two years or more, these animals were but slightly appreciated, and he had in fact, when disposing of them, to accept prices but a trifle above that of common hogs? The superb Jack of Newbury, that will hereafter stand in the annals of blooded hogs, as high in the United States as the Godolphin Arabian does in that of horses in Great Britain, was sold for hardly what his pork was worth, viz., twenty-five dollars; and Mr. Lossing very humorously tells the story of being literally mobbed, hooted at, and almost stoned, for paying Mr. Hawes, at the Albany fair in 1834, the enormous sum of three dollars for the pig that grew up to his magnificent old Superior! Why I know a spirited breeder in Kentucky, that would now gladly give three hundred dollars for either of these noble animals, when full grown and in their prime, and think that he had them at a bargain. No wonder that Mr. Hawes should have returned to his country in disgust, at his failure in endeavoring to arouse the American public to the value of an improved race of swine. But Rome was not built in a day, nor could Berkshires be appreciated throughout the country in the same space of time; yet thanks now to the spirit of improvement, that your own and kindred journals have aroused in the land, they are at length getting their name up, and others will reap where Mr. Hawes so discouragingly sowed; and Mr. Lossing can now turn the tables upon the hooters, since he has the pride and pleasure of refusing this summer, just ten times what he first paid for a sucking sow pig, for I was told by the gentleman from Ohio himself, that he had offered thirty dollars in vain for a single choice out of one of his litters.

Some may sneer at these prices, and call it a Multiculis fever revived under another name, but will they allow me to state a case. Suppose a farmer among the rich corn fields of the west, that annually turns off, as many single persons do there, from twenty to fifty thousand pounds of pork per annum, which is worth, say in

the first quantity, \$800, and in the second, \$2,000. Now by using an improved race of males to his breeding sows, in two years he gets stock that on the same food will give him twenty-five per cent more pork, or in effect in the first instance, adds \$200 to his profits, and in the second, \$500. Is he not justified, nay, absolutely forced to avail himself of this improvement, or suffer greatly in his interest, notwithstanding he may pay comparatively dear for it to begin with. Why we might just as well object to building a rail-road at an expense of \$5,000 to \$20,000 per mile, or make any other improvement that the genius of the age has invented. But the case is so palpably plain, and has been so often and ably argued, that I will not dwell upon it, and leave every person to adopt an improved stock, or not, as suits his inclination; and will only add, that in this vicinity, even among what is called poor and hard laboring people, three to five dollars is not unfrequently paid for half and three-fourths blooded pigs, just to keep a single season for their own fattening, rather than accept common animals as a gift. They assert that they much more than save the first cost in the food consumed during the fattening process, and besides they have the gratification of a decent animal to look at while it is going on, and a good quality of pork in the end for their tables.

I now come to another kind of improvement, which though not strictly agricultural, is akin to it, and that is the Park and its embellishments in front of the State House, and the superb architecture and dimensions of some of the private and public buildings recently erected in its vicinity and elsewhere. Among the first is the Exchange, in a suit of airy rooms of which I found you, Messrs. Editors, so well accommodated. This is a building of clear gray granite, plain in its style of architecture and occupying an entire square, and made imposing from its large dimensions and massive material. What a different aspect would our cities present, if the several owners of lots in every square, could but agree on some general plan of building, and instead of having the *façades* present as many ill-contrived and irregular fronts to the street, as there were different owners of the lots, each square would be an entire building after some particular order of architecture, looking beautiful and imposing, on whichever of its four sides it might be contemplated, thus making every American town, in time, what Prince Leopold pronounced Edinburgh to be, "a city of palaces."

The replacing the old wooden fence around the park with a high strong iron one, is a great embellishment, and the new arrangement of the walks, and planting of trees more thickly, gives it a charming grove-like aspect, making an oasis in a desert of buildings, gladdening to the eye and refreshing to the town. What a relief to escape from the pent up atmosphere of the lower part of the city, to refresh one's self here, and it is thousand times to be regretted, that in planning towns, more open squares and parks are not left. To say nothing of the rural beauty of them, they are absolutely necessary in our hot summers for the health of the inhabitants. The City Hall and new State House are noble buildings of marble, and the former standing alone, shows to great advantage. I don't know when I have been so forcibly struck with the imposing beauty of any thing, as I was one clear bright night in walking down Washington-street; overtopping the trees of the park, the mellow beams of the moon falling on the rich gilded dome, gave it the appearance of a golden orb suspended in mid-air, while the white walls and pillars shone out so soft and clear from the dark shadowy background, as to make one quite enchanted with the reign of Madam Luna, and brought those never too oft repeated lines of the minstrel to memory:

"If thou wouldest view fair Melrose aright,  
Go visit it by the pale moonlight.  
When buttress and buttress, alternately  
Seem framed of ebon and ivory,  
And silver edges the imagery."

Buffalo, August, 1840.

A. B. A.

#### ROHAN POTATOES, STRIPED BUG, &c.

MESSRS. EDITORS—In your Aug. number, page 131, I have observed a communication on the above topics, in which some information is requested; and should nothing else offer, you are at liberty to insert the following. In the first place, the Rohan is not the old Merino potato. Any person acquainted with both, or who could compare them, would see that though alike in some points, there is a wide difference in the whole. As to the black grub, I have cultivated the Rohan this two years, and never to my knowledge, have had a stem cut by the grub. Where grown on an extensive scale, the grub could hardly do essential injury; where the plants are few, I should protect them as I would beans, cabbages, or other garden plants; that is, daily examine the plants, and if a stem was cut, hunt up the grub and destroy him; a thing easily done. As to the striped bug, I never adopt any half way measures with them; the war is always one of extermination. A few minutes twice a day, spent in a plat of melon, cucumber, or pumpkin vines, during the few days the bug is most active, will not only save the present vines, but do much towards securing those of the next year. This spring, I had half a dozen hills of Valparaiso squashes, at some distance from my garden. The plants were large and thrifty, and I began to flatter myself as the bug did not show itself on them, that danger from that source was over. Two days they remained unvisited, and the third I found them almost literally devoured. The bugs were upon them in multitudes, and the broad leaves had be-

come a net work. I instantly rolled up my sleeves, and went at them, killed till my thumb and finger ached, and till I had gone over the vines. I repeated the operation two or three days longer, and the bugs were scarce. They are now fine vines, and promise an abundant crop. Of all preventive of the striped bug, there is none so easy and sure as a pinch of the thumb and finger; the remedy is radical. I used to suffer much, but now I rarely lose a plant of any kind from this pest. Such is also my experience with the black grub. When they do mischief, hunt them out, and exact the "pound of flesh" instanter. They cannot be made to understand parleying.

W. WILSON.

#### THE SCIENCE OF AGRICULTURE.

EDITORS OF CULTIVATOR.—The state of Rhode-Island, like the rest of her New-England sisters, has recently procured a Geological and Agricultural Survey of her territory. Dr. CHARLES T. JACKSON, the gentleman employed for the purpose of making the survey, has just published his Report, which is now before me. It contains much matter which is valuable to the farmer, and interesting to the general reader; and I have thought that a few extracts might not be unacceptable to the readers of the Cultivator. Notwithstanding so much has been said and written on the theory and practice of agriculture, we cannot conceal from ourselves that we are still very far from possessing a knowledge of the truth in relation to these important subjects, or that agriculture is still far in the rear of her sister sciences. The cause of our ignorance is partly attributable to the want of mutual intercourse among farmers, which would enable them to compare their experience and correct their practices; partly to the fact that until recently there has been no medium through which the results of successful practice could be recorded and disseminated; but it is chiefly owing to the want of scientific knowledge among our farmers, that our modes of cultivation are so empirical, and that our results are so uncertain. For want of this knowledge, they are unable to avail themselves of those helps to *correct* observation, which have so powerfully accelerated the onward march of collateral sciences, or to appreciate the full value of those facts which their limited and imperfect means of observation have revealed to them. Within the last few years, however, brighter prospects have dawned on agricultural science; the establishment of numerous Agricultural Journals, and the Reports of those who have been entrusted with the Agricultural Surveys of the several states, have furnished permanent repositories for a vast amount of valuable facts; many of which were before unknown; and many, which, though they were known to a few individuals, or in limited districts, were unknown to the great body of agriculturists. Should these inquiries be prosecuted with zeal and assiduity for a few years more, we shall probably be in possession of a sufficient number of facts to enable some second Newton, to seize on the grand key fact, which will unlock the arcanum of agriculture, and lead us as triumphantly through all its labyrinths and recesses as the discovery of gravity did through those of astronomy and physics. In looking through the mass of facts already collected, it is almost impossible to avoid the conjecture that this key fact, when discovered, will be found to be in some way connected with electricity. Modern researches have revealed to us that water is, under certain circumstances, an excitant of the galvanic current, and that the particles of a finely pulverized soil furnish suitable plates on which its electric energies may be exerted; that alkaline substances are electro-positive, and acid substances are electro-negative; that soils which are absolutely positive, or absolutely negative, are barren; and that those soils are most propitious to vegetable growth and nutrition in proportion as these properties are equalized or balanced in them. It is, therefore, a well established agricultural maxim, that we must bring our soils to a perfectly natural state, especially if acid.

Silex is considered as an electro-negative; lime, clay, iron, &c. are alkaline, or electro-positive in relation to it. Vegetable acids, where they exist in a soil, are electro-negative, and indicate the application of lime, or some electro-positive substance. But electricity exerts another influence, recently discovered, and powerful in its operation, which I believe is less known to farmers than the preceding, and shows more conclusively its power in the production of plants than any other with which I am acquainted. Dr. JACKSON states the doctrine with great clearness and beauty, and I have transcribed his account of it, verbatim, except that I have paraphrased some of the phrases which he makes use of, for the benefit of those who are unaccustomed to the technicalities of science. I quote from the "Report," p. 133:

"The movements effected by the different electrical properties of the component ingredients of soil, both of mineral and organic nature, must have a powerful influence on the growth of plants, since electricity is well known to be a most efficient promoter of *endosmose* or absorption, and the power, although not visible or perceptible by the other senses, where it acts in a gentle and diffused manner, yet slowly effects great changes, and is always the moving power in all chemical reactions where combinations take place. Endosmose is a name given by Mons. Dutrochet, to a peculiar power which he discovered while experimenting on the capacity of very thin skins (such as those which are seen rising up like bubbles on an animal after the skin has been removed,) for allowing the passage of particles of matter through their pores. Its name is from the Greek, and signifies internal impulse. By stating the principles of one or two experiments, the read-

er will be enabled to understand this curious property, which is possessed by all thin skin substances, when liquids of different densities and electro-motive power are placed on each side of the skin, employed in the experiment. If we take a cupping glass with a tube attached to it, and tie over its mouth a thin piece of bladder, or other thin skin, fastening it firmly to the rim of the glass by means of waxed thread, so as to render the apparatus tight, and then fix a plate of metal with holes in it so as to support the bladder, we have an instrument that will serve for an endosmometer. Having bored a hole through a cork that will fit the upper hole, a glass tube, open at both ends, is to be inserted. Fill the cupping glass with sugar and water, or any other undecomposed solution denser than water, and then plunge the cup into a vessel filled with water, so that it comes just up to the liquid inside the endosmometer at zero on the tube, it is evident that no pressure can be exerted on either side. Now place a scale of paper or make marks with black paint on the tube, indicating inches and half inches, so as to be able to note what follows.

"Very soon it will be seen that the liquid rises in the tube, and it will continue to do so until it flows out at the open orifice, provided the membrane does not yield or decay. Generally I have found the ascent to be from half to two inches per hour, the rate of progression diminishing with the height, though not regularly, for there are some peculiar states of dilution in which the action is most rapid, and the rise will be found to vary accordingly. Dutrochet determined the ascensional force in such an instrument, to be equal to the pressure of a column of twenty-eight French inches of mercury, or about the weight of the atmosphere. It should here be noted that the pressure of the air is equally exerted on both sides of the instrument, and has nothing to do with the phenomenon.

"Mirbel, by experiment, found the ascensional power of the sap in a grape vine to be the same as was discovered by Dutrochet, in his new instrument. That is, the ascent of mercury in a tube, produced by the outpouring of the sap from the top of the grape vine which was cut off while the sap was flowing, and sealed up over the mercury, raised the mercurial column twenty-eight inches in the tube. If electricity be employed in the experiment with the endosmometer, immerse the negative wire in the endosmometer, and the positive wire is placed in the water outside, then the water will pass into the instrument and the fluid will rise in the tube. This instrument is here mentioned as a mechanical illustration of the absorbent system of plants, which have an infinity of such endosmeters in their structure, for every rootlet has its sponges, which are little bladders that stand out from the imbibing portions of the roots, and every cell has its thin skin, in which the endosmotic action is produced. We should also remark that the fluids constituting the common juice, or ascending sap of plants, are denser than water; and hence are proper excitants of endosmose. There is another peculiarity about the instrument, which is, if any putrid substance is placed within it, or if any sulphured hydrogen be mingled with syrup, it becomes instantly paralyzed; and the moment the skin begins to purify, the fluid that had ascended in the tube passes down and filters out; and this is not owing to any opening being formed, for the skin is found to be perfect when examined.

"I shall also remark that an opposite movement of much less magnitude takes place in this experiment, and it will be found that the fluid passes out in smaller quantities than the water enters. This external impulse is called exosmose.

"I have repeated nearly all the experiments described by M. Dutrochet, and can vouch for the correctness of his results so far as here stated."

The theory of Decandolle, that a poisonous matter is excreted from the roots of plants, which prevents the successive reproduction of the same species on the same ground, receives a striking confirmation (though not full demonstration) from what has been stated in relation to exosmose. L. F. ALLEN, of Buffalo, combated the theory of Decandolle in the 2nd vol. of the Cultivator, with an ability which renders it a matter of regret that he does not write oftener. His principal objection was drawn from the fact, that some of the lands in the counties of Livingston, Genesee and Monroe, had been cropped with wheat for forty consecutive years, and now produce as large crops as they did at first. The same he asserted was true in relation to raising Indian corn on the alluvial bottoms of the Tonawanda and Buffalo creeks. Judge BUEL also took the same ground, and in addition, urged the absence of direct proof that there was any excretion such as Decandolle had supposed.

The doctrine of exosmose solidly confutes the last objection, and the first may be answered by an hypothesis of the existence of an *antidote* to the poisonous matter existing naturally in the soil. But as I fear my letter is growing tedious from its length, if not from its lack of interest, I conclude your assured friend.

Stockport, 8th mo. 28, 1840.

N. N. D.

#### Clover Seed Machine.

MESSRS. GAYLORD & TUCKER—Having received several letters from different states about Rittenhouse and Blackwell's Clover Machine, and wishing to give all the information I am able to, I take this method of informing those that have addressed me on the subject, that since my communication to you I have seen Mr. Blackwell, and he informs me that he has commenced making machines at Waterloo, Seneca co., N. Y., with Mr. Halbert, and that he has made some and sent them to the state of Kentucky, for individuals, with the right to use them, or he will sell the rights of states or territories to individuals, and furnish as many machines as they may want. Yours, &c. H. BREWER.

P. S. There is a mistake in the published letter from me to you in the price of cleaning; the price has always been one-eighth of all the quantity cleaned, in this vicinity, or the price of it. So the price of cleaning, ranges with the price of seed.

Enfield, N. Y. Aug. 22, 1840.

**“THE FULL-BRED BERKSHIRES.”**

MESSRS. GAYLORD & TUCKER—I have looked on with much amusement, at the quackery attempted to be practiced on the public, relative to Berkshire swine; and have been not a little surprised at the assumed dictation of individuals, whose knowledge of this breed, its changes and varieties, has been limited to a few imported animals and their descendants; and who have undertaken to determine, from the color of some half dozen hogs brought to this country by Mr. HAWES, how many white hairs constitute a full blood, and how many black feet betray a grade; to say nothing of the twist in the tail, and the bunch of hairs at its end. Now really, gentlemen, you must not wonder that there are scoundrels at “book farming,” and those among us who set lightly by the scribbling of self-love, and while there are many who highly appreciate the much that is useful and instructive in your columns, we must beg leave to laugh at the ridiculous, as its best cure.

It is truly astonishing, that any one should display such woful ignorance as to the real origin and history of the hogs which now fill his sty, as is exhibited by an Albany breeder, in a late number of the *Cultivator*. He calls them “the full-bred Berkshires.” Let us examine this matter a little, and see what are the characteristics of the Berkshires, as given by English writers. Loudon, Culley, “The Complete Grazier,” Parkinson, and Low, all agree, with some little differences of expression, in assigning to the original Berkshires, a tawny or reddish brown color, with dark spots. To this, I would add my own testimony, having formerly been myself a resident in the county of Berkshire. The pure-bred native hog at that time, was spotted, black and white, in nearly equal proportions, with a greater or less intermixture of reddish hairs, giving a ferruginous hue to the whole coat. They were a long, large, heavy hog; rather flat in the side, always full, and meaty in the ham; somewhat slope rumped, a little heavy in the bone, something straight in the face, but with a tolerable fullness in the jole, and a drooping ear; their hair was inclined to coarseness, and often curly. On the farm where I lived, they were seldom put up to fatten till three years old; and when fit to kill, would average from twenty-five to thirty-five score. We used them for bacon, considering they made better hams and fitches, than any other breed. These were the hogs universally found in Berkshire, in my day. Mr. Astley of Oldstone-hall, has, I believe, the merit of having improved this breed as above described, by a judicious introduction of the eastern blood; and the hog thus formed, has been crossed upon almost every race in England, in all cases with the most advantageous results. It is a cross of this improved Berkshire with the Chinese, which we have in this country, under the name of full-bred Berkshires. As to color, had that come under the consideration of the breeder, he might have varied it from pure white to jet black, by making use of the white or black Chinese, with strict reference to such a result. I shall not pretend to decide which color has claims to superiority, although the black China is considered the most hardy and prolific, while the white is perhaps the better formed. Whether these differences are sensible in their crosses on the Berkshire, I am not prepared to decide. Again—there is, of course, great variety of size, and some of form, according to the number and character of the crosses taken from the various races. Many of the smaller Berkshires, so desirable as porkers, are without doubt descended from a cross of the Axfords, in which there is a dash of the Barbadoes blood, strongly tending to confirm the reddish tinge of the old breed. But, without entering farther into detail, I think I have said enough to expose the utter absurdity of these critical distinctions of color, even to the “emblems” of three white toes, &c., which have been held up to just ridicule in some of our late agricultural papers. And who shall say now that he alone has *The Improved Berkshires?*

What is to become of the “Rudwick” cross, the “Hampshire” of the present day, in which the Berkshire blood strongly predominates; the fine boned and delicate “Dishley,” said to lay on a larger quantity of meat in proportion to bone and offal, than any other kind; Lord Western’s celebrated breed of “the Essex half blacks,” considered by many to be the finest in England? What is to become of these and many others, all of them crosses of the Berkshire family? I would ask, then, on what grounds the Albany importation claim to be the standard of *The Improved Berkshires?*

In the extra accompanying the May number of the *Cultivator*, I saw an advertisement of “Pure Berkshires, without any alloy of black Siamese or common white hogs.” I should really be glad to see one of the animals, for an improved Berkshire, without any of the eastern blood in him, cannot probably be found in England.

I was much gratified to see in the last *Cultivator*, an article relative to “true size.” The writer indeed lays down the golden rule on that subject. “The greatest weight in the smallest relative compass; weight for inches, not for surface.” Now, this is just as true with regard to swine, as to cattle. What is it that our breeders are doing, urged by the mania for size, but breeding back again as fast as possible to the old *unimproved* Berkshire, thus undoing in their wisdom, all that the science of England has accomplished in so many years? But, say our western friends, we must have size, to fill the pork barrel. Fill it with what? Heads and shanks? They will indeed fill the barrel, but not the consumer, which is a far more important consideration. If the Berkshires can be forced to an increased

size, and still retain their light offal, well and good—provided they do not degenerate into the coarse animal, of which there may be no little danger. But I would not be understood as advocating the paity, short-sighted policy of those from whom we expected better things; who have sent away such “riff-raff,” to meet the pressing demand for Berkshires, as would induce one to suppose the very scourings of a city suburb had been collected for the purpose. How much more conducive to their own true interests, has been the course pursued by that shrewd, far-seeing people, the *Shakers* of Watervliet, in carefully preserving the size of their animals, to which I presume they are mainly indebted for the late sale of their whole stock to Mr. A. B. ALLEN, of Buffalo, under whose judicious and careful management, their excellence will undoubtedly be preserved, and the public expectation with regard to them, fully met. They will neither be stuffed to plethora, nor starved to piggies; and considering Mr. Allen to possess the pride and feelings of a breeder, we may hope to escape the “culls and runts” of his litters, although we may not always be able to command his best; for it is not to be supposed that any “established breeder of reputation,” would sell the refuse of his stock at any price, which would be the infraction of a rule well known to the *true* breeder—although it has not been picked up with other matters of the craft by the *dealers* in Berkshire pigs, who it seems sell all they can raise, at one price or another—if not \$20, why then 20s.

As the intent of your paper is to elicit truth, and serve the farmer, I presume you will not object to giving the above an insertion. I am not now a breeder of the Berkshire, having given my attention to other departments, but I would lend my feeble aid to the maintenance of science, against quackery in every shape.

Cambridge, Mass., Aug. 31, 1840. D.

**WHEAT vs. CHESS.**

TO THE EDITORS OF THE CULTIVATOR—In your August number, I find an article from your correspondent L. Hulett, approbative of the doctrine that wheat degenerates to chess, and your accompanying strictures, declaring your uncompromising hostility against such “agricultural heterodoxy.” Now, Messrs. Editors, as you profess to deal in “facts” more than “theory,” I will endeavor, in a plain unvarnished style, to furnish you with a few “facts,” which you must admit are stubborn things, and which, in my very humble conception, cannot be fairly controverted. What I have to say will be in vindication of that, as you opine, diabolical and exploded doctrine that there is a change of wheat into cheat or chess. The summer and first of the fall of 1838, was an unusually dry season. The corn crop did not produce more than one-fourth the average quantity, but the wheat of that year was very fine and the yield never better. In consequence of having no fall of rain from July to September, the wheat which was scattered and shattered out by reaping at harvest, remained upon the fields in a perfect state. The fall rains commenced, and by a continuation of several weeks of moist warm weather, the wheat that escaped the scythe came up and clad the fields in green. Several individuals, myself among the rest, came to the conclusion that we would try an experiment, and that we would make a fair trial to ascertain whether our luxuriant fields of *volunteer wheat*, would reproduce wheat or degenerate into cheat. We did not therefore permit our fields to be grazed during the fall, winter or spring.

I propose to introduce to your especial notice three separate and distinct fields, one owned by Dr. M. one by Col. B. and the last by myself. Dr. M. had within his enclosure, and from which he reaped his wheat, some 70 or 80 acres of land. As soon as his shocks of wheat were moved, he put 80 or 100 head of hogs into his field for the purpose of gleaning it. They gave the land a thorough *noe cultivation* by rooting over nearly the whole surface of the field. The result was that the wheat came up very handsomely, whereupon the hogs where taken to other fields and the experiment, for such it was, was left to develop itself. Col. B. had within his enclosure from 80 to 100 acres, from which he had abstracted a very bountiful crop of wheat. That portion which had *cheated* the scythe, scattered on the ground and came up at the same time with Dr. M.’s; and during the fall, winter and spring, promised an abundant crop. This field had very few if any swine running upon it, and consequently had no advantage from their *noe culture*.

Within my own enclosure of 50 acres, after harvesting and the removal of my wheat, I put in my stock of hogs, but they were not numerous enough to give it a good cultivation. While some of it was well tilled, other parts were but slightly rooted. When the wheat came up after the autumn rains, the hogs were taken to another field. I will now disclose to you the results. Dr. M. in June, 1839, from his field of *volunteer wheat* before described, saved about 400 bushels of excellent wheat. A considerable portion of his field was almost exempt from chess, while in some parts less cultivated by the hogs that article abounded. Col. B.’s. field, to the astonishment of all beholders, was out and out every inch of it a splendid field of chess. A few spears of wheat, few and far between, could only be seen. I think 6 or 800 bushels of chess could have been harvested. From my own field I obtained a pretty good supply of excellent wheat, but more mixed with chess than Dr. M.’s for want of the same cultivation. Now, why all this discrepancy between the several fields above described is obvious to my own mind, and to that of every person in this region.

Is it not as plain as the nose on a man’s face, that the extraordinary yield from Dr. M.’s field should be ascribed exclusively to its superior cultivation by his 100 hogs; and that the greater mixture of chess with my own should be ascribed to less or a more inferior culture, and that the total degeneration of Col. B.’s. field into chess, may properly be attributed to the entire want of tillage. Let metaphysicians canvass it as they may, a single fact is worth a thousand abstract theories.

I will also remark that Dr. M., Col. B. and myself, invariably riddle the chess and small grains of wheat from our seed wheat. If all the chess seed had been procured in 20 miles square, it would not have sufficed for seeding so large a field as Col. B.’s. Chess cannot be found on our lands except after the growing of wheat, and then it is but rarely suffered to come to maturity as our stock are permitted to graze it sufficiently to keep it down. I could enumerate a number of herbs, plants, &c. from the vegetable kingdom, and that since the hand of man has cultivated them, has rendered them entirely dissimilar in *appearance and taste* to their pristine state when plucked from the wilderness. I am, until I find something more conclusive on the subject, “a sturdy, staunch believer” in the transmutation of wheat into chess. I suppose this hasty sketch, should you think it worthy of an insertion in your invaluable paper, will draw down upon me, the animadversions of many anti-chess men, but it will be to me no cause of regret, as the best method to come to right conclusions is by sifting every topic to the bottom.

Your agricultural friend,

R. E. MOSELEY.

North River, Buckingham, Va. Aug. 1840.

**NOTE BY THE EDITORS.**

Defective as we may seem in courtesy not to be influenced by Mr. M.’s argument, we are compelled, while we yield an affirmative answer to each of the queries he has made, to draw from them an inference totally averse to his; and we go farther and state that, when all the circumstances of the cases adduced, and the nature of the two plants are taken into consideration, the communication furnishes a most decisive proof of the fallacy of the doctrine of transmutation.

That there was chess in the wheat fields, and that it was scattered at harvest, as well as wheat, is clear from the paper, as we may be assured that no “riddling” will entirely clean foul seed, and that where chess ripens in wheat, enough will be left in the field to seed it plentifully. Some seeds will grow and come to maturity if left on the surface; others require covering, and perish without. Chess is of the first kind, wheat of the last. Where the hogs rooted, the wheat was covered, and of course grew, and in proportion to the “noe cultivation” was the crop. Where the surface was undisturbed, the wheat either did not vegetate at all, or perished; while the chess occupied the whole space and gave a luxuriant crop.

Our correspondent has begged the very question in dispute, by assuming that the chess could not have grown from seed, and then endeavoring to trace it to the degeneration of the wheat. The exceeding loose manner in which he has stated the impossibility of procuring chess to seed Col. B.’s field, will give an air of hyperbole, (wrongfully perhaps,) to the other “facts” of the statement. Let it once be proved that chess has grown where no chess could possibly have been; and where nothing but *pure* wheat was sown, and the question will be settled, not before. All the supposititious “facts” in the case weigh not a feather in the argument.

We can readily conceive that Mr. M. has known plants change their “*appearance and taste*” by cultivation; the production of the pippin from the crab-apple is a familiar instance; but has he known one species of plant, having marked and uniform characters, change to another well marked and distinct species? Has he known the apple change to the pear, or timothy grass to orchard grass? That is the question; and until it is answered in the affirmative, change in appearance and taste will not be apt to go far with the farmer, or the careful observer of nature. The reader is referred to “Popular Errors,” No. 3, in another column, for a further exposition of this, as we confidently believe, heterodox notion.

**RULES IN SOWING WHEAT.**

MESSRS. EDITORS—As the time for wheat sowing is near at hand, I wish to give a few short rules, which, if strictly followed, will convert every believer in the doctrine of transmutation of wheat into chess, from that absurd opinion.

1. Harvest and draw into your barn all the chess you find growing in your wheat.

2. At no time scatter or feed out any chess, until it is ground fine.

3. Sow no chess with your wheat.

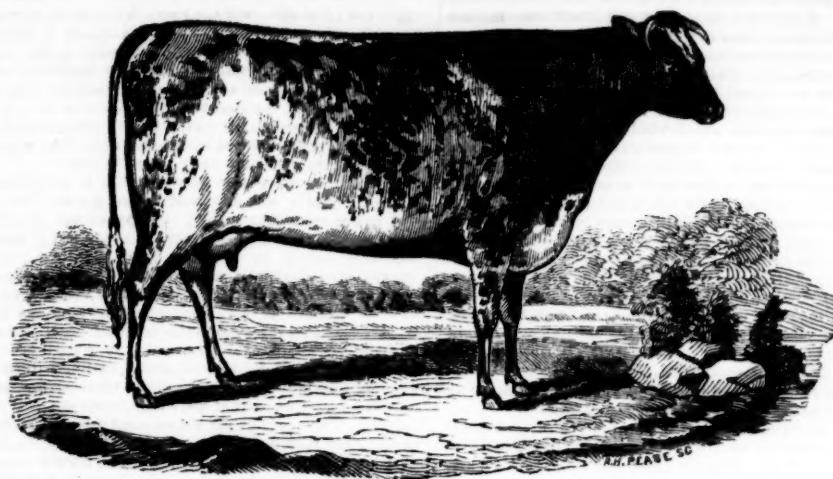
Follow the above rules a few years, and you will be disposed to laugh at the credulity of the man who ventures the assertion, that wheat turns to chess. But remember the third rule.

E. MARKS

Nararino, Onondaga county, August 6, 1840.

**INQUIRY.**

MESSRS. EDITORS—If your correspondent, signing “J. R. B.” who so highly recommends Robinson’s Works on Rural Architecture, in the June number, will state the cost of each, he will confer a favor on a mechanic, and constant reader of your paper.



Portrait of "Julia," an Improved S. Horn Cow, owned by J. W. Kendall, Esq., Elkton, Ky. 84.

MESSRS. GAYLORD & TUCKER—I see in all of the late numbers of your most excellent paper, specimens of fine stock of different kinds, which I am pleased to see, believing that it will be the means of exciting a still greater interest in the western and southern states, in procuring fine stock of all kinds. We have some very fine cattle and hogs in this section of Kentucky, but they are few in number, and many of our good farmers have none, and are still hesitating; I hope that your paper may soon be read by all of our farmers, and will do all I can to aid in promoting its circulation.

Believing you will feel disposed to let some western stock be seen through the Cultivator, I have this day mailed to you an engraving, and a most excellent likeness it is, of my cow *Julia*, a beautiful roan, seven years old, said by the best judges to be a very fine specimen of the Durham stock. I purchased her from the herd of Col. BENJAMIN P. GRAY of Woodford county, Kentucky.

Very respectfully,  
J. W. KENDALL.  
Elkton, Todd co. Ky. Augus' 9th, 1840.

#### LETTER FROM ENGLAND.

MESSRS. GAYLORD & TUCKER—I am so far on my journey, with the best lot of stock ever seen together. They consist of the following:

One cart colt, one year old, allowed by the best judges to be as good as England can produce.

One cart mare, six years old, equally good.

One Hereford cow, that won the first prize at Oxford, 1839, against all England; and a young bull from her, eleven months old.

Two five year old Hereford cows.

Five yearling Hereford heifers. These Herefords are all in calf by Dangerous, a yearling bull that is to be shown against all England, next year.

One half bred between the Hereford and Durham, to show the cross, which I think is an excellent one, probably better than the pure breed of either, and from what I saw of Mr. Cother's stock of Middle Aston, it may be extended much farther than generally supposed, for his fourth cross was equal to the first—not the least sign of degeneration. Of this I will say more, when I have more time, for it is now precious.

I have twenty shearing Cotswold rams from Mr. Hewer. I send you an English paper\* to show the average price of each sheep, which was £17 16s. 10d. \$85.63. The Messrs. Hewers were offered 150 guineas (\$756.) for one shearing, by a noted ram breeder in Lincolnshire; this offer and sale was bona fide, no *humble* or *reservation*; this I know positively, for the Messrs. Hewers do not allow any thing of the kind. I will give you my ideas on sheep next time.

I have a quantity of pigs of various descriptions; the best that could be procured in England. I have one sow and eight pigs that cannot be beaten in any country, either for fattening qualities or weight. You can judge for yourself when you see them.

We shall show a number of our cattle at the show at Niblo's in October, where we invite the owners of the best cattle in America to appear against us, (with the best of feeling,) for it is opposition and competition that spurs us on to superiority, but prejudice must be out of the question. Let reality be our helmsman, and perseverance our motto, and then our country can be equal in stock to any on the globe. It all depends on the people.

We shall have twenty-four rams for sale, such that cannot be beaten even in England. This is positive.

Mr. Hewer has numerous backers if he will allow it, to show from one sheep to a hundred, against any person in the world, either ewes or rams. He has been very careless about showing his sheep and cattle, having met with ready sale without it.

I am, dear sirs, yours sincerely,

WM. H'Y SOTHAM.

Portsmouth, August 24. 1840.

\* Mr. Hewer's long established and well known annual sale of Tups, took place at Northleach on Wednesday, and was, as it has always been, most numerously attended by all the gentlemen and farmers round about, as well as from distant parts of the kingdom. There were sixty sheep for sale, several of which were bought up for the purpose of being exported to the United States of America. The sixty were sold at the average price of £18 10s. 4d., a circumstance which demonstrates the superior value of Mr. Hewer's sheep, and the decided preference which is always shown to them. As an evidence of the vast superiority of Mr. Hewer's sheep, we can state as a fact, that for one remarkably fine tup, the high price of £150 was offered and refused. Mr. Hewer wishing to keep the animal for his own ewes.—*Wiltshire and Gloucestershire Standard* of August 1, 1840.

sible for pigs to be, and the other two are not worth a penny a piece. Yours very respectfully,

JOHN & E. A. HARLAND.

Guelph, Upper Canada, 10th 9mo. 1840.

#### LATE SOWN WHEAT.

MESSRS. EDITORS—In your September number, you request farther information in relation to late sown wheat, which from experiments some suppose will yield as well as that which has been sown at an earlier period. In reply, I would state that I sowed a small field of wheat on the 14th day of October last, with the exception of about an eighth of an acre, which at the time was covered with young mulberry trees. The trees were dug up after the frost had destroyed the leaves, and the ground which they had occupied was sown on the 13th of November, but the cold weather set in so soon after, that the grain had only an opportunity to vegetate, and could with difficulty be seen above the surface. The whole field was in good order and received a sufficient coat of manure. The soil is loam and sand, the latter predominating, and is of such a nature that frosts are not apt to injure grain growing in it. The whole of the wheat was injured by the Hessian fly, and the larvae were found in the stalks of the late sown in as great abundance as in the early, from which it is evident that late sowing is not always a preventive of this pest, and that the fly deposits its eggs in the spring as well as in the fall. The late sown did not grow as luxuriant as the early, and from appearances, (the quantity was not measured,) would not yield half as much. I have known instances of late sown wheat yielding nearly as well as early sown, but as a general practice on soil in which sand predominates, believe early sowing to be preferable.

Yours, &c.

T. G. BERGEN

Narrows, L. I. Sept. 10, 1840.

#### CARPENTER'S HARVESTING MACHINE.

MESSRS. EDITORS—I wish to answer, through your paper many of the inquiries relating to the Harvesting Machine. It seemed the best medium, for every wheat grower should take one. We can now emphatically say, the harvesting machine has been in successful operation, and the present adds another season of experience in confirmation of theory, and when experience and theory agree, they go far to establish truth. We find none of the difficulty apprehended by some in preserving the early threshed grain, and have proved it to waste much less grain than is wasted in the common way of harvesting, and to save more than three-fourths of the expense in cutting, gathering and threshing grain. And farther, that the machines are far from being difficult or expensive to keep in order; for any ingenious teamster may learn in one day to take the entire charge of the team and machine, and will need help only to empty out the grain. Respectfully,

G. G. CARPENTER.

Caledonia, N. Y., August, 1840.

#### Description of a COTSWOLD BUCK.

MESSRS. GAYLORD & TUCKER—I saw in the June number of the Cultivator, a description of a Lincolnshire Buck, owned by L. D. CLIFT, Esq. After seeing that statement, I was induced to take the measurement and weight of a full-blooded Cotswold Buck, raised and owned by STEPHEN HAIGHT, Esq. of this town. The Buck was three years old last April, and weighs at this time 240 pounds, and measures as follows:

Across the shoulders,.....	1 ft. 6 inches
Across the loin,.....	1 " 54 "
Across the back,.....	1 " 74 "
Height on the rump,.....	2 " 62 "
Height of fore shoulders,.....	2 " 5 "
Length from nose to root of tail,..	5 " 3 "
Girth round brisket,.....	4 " 5 "

The weight of his fleece I am unable to give, as it was not kept from the rest of his flock. This sheep has had no better keeping than the other sheep in his flock.

ISAAC HAIGHT, Jr.

Washington, Dutchess co. 25th Aug. 1840.

#### Save your Peach Trees from Grubs.

Never having seen the following in print, I send it to you to publish, if you see fit; after twelve years experience, I am convinced of its efficacy. Pour boiling or scalding water, for I am not very particular which, around, and on the body of the tree, as near the ground as possible, as often as your trees show any symptoms of decay. Indeed, I do not always wait for the symptoms to appear. I have not lost a peach tree for twelve years, having practiced the above method for their preservation. I have not failed of having good peaches but one year during the whole time. C. S. PHELPS.

Oneego, June 1, 1840.

ALL THE LUCK.—We find in one of our foreign journals, the following instance of rapid increase:—"On Thursday the wife of Mr. W. Clauvis, a farmer near Caistor, presented him with a fine boy and girl. Shortly after, his cow produced two calves; and in the course of the day, the sow farrowed 11 pigs, a ewe, yearned him 3 lambs, and his hen came off with 15 chickens. The gude mon was at home during this increase, and properly rejoices in the gifts of Providence." The elements of reproduction, as Walker would say, must have been uncommonly active in that vicinity.

## TO WESTERN EMIGRANTS.

MESSRS. EDITORS—If many of the intelligent persons who emigrate from the Eastern States to the "Great West," could look a few years only into futurity, they would greatly profit by it, not only to themselves, but to the country. Will any of those who intend in future to emigrate, profit by the kind hint of a friend?

Instead, then, of bringing with you many cumbersome articles of furniture that will be almost useless in such a residence as you must necessarily inhabit in a new country; or at any rate, such as you can well dispense with in a "log cabin," let me honestly advise you to bring the worth of it in "Berkshire pigs," "Durham bulls," "Leicester sheep," and other improved machinery, that will add much more to your wealth and comfort, than mahogany side-boards, tables and chairs, and gilt looking glasses. I do not object to these things in their proper places—but the place for them, is not in a house composed of rough logs, having the cracks between them "chinked" with rails, and "daubed" with mud; having a floor made of "puncheons," that is, plank split out of logs, the roof covered with "shakes," or "clapboards," about four feet long, laid upon round poles; the chimney built without stone, brick, or mason, composed of sticks and clay—the door of split boards, with wooden hinges and latch—for such are some of the "fixins" of a log cabin—and in such a dwelling-place has many a good family lived comfortably, contented, and happy, while earning the means to provide a better one—and in such an one has been many a good piece of furniture spoiled by an exposure, which such articles are not calculated to endure. Besides, such articles run much more risk of loss and damage on the passage than a cage of Berkshire pigs.

Let me earnestly advise every person intending to emigrate to the west, particularly the northern parts of Indiana and Illinois, to which water communication is so cheap, safe, and convenient, to dispose of all articles of luxury, that are unsuitable to the situations they will be likely to be placed in, for a few of the first years of their new habitation, and invest the proceeds in valuable stock, and improved farming implements, with a variety of the best seeds; and my word for it, they will find their account in it.

A word more, honestly spoken. Although the inhabitants of all new countries are anxious to see it settle fast, and urge their friends and acquaintance to "come west," without distinction, there are many that come who are entirely unfit for "new settlers." An able general selects a small portion of a large army for pioneers, because of the peculiar fitness of that small part for that arduous and important service. It is my opinion, that a much smaller portion of the community are fit for pioneers in settling a new country. Too little heed has been paid to this important fact, in the great rush for the west, a few years past. Thousands have rushed forward with the bright vision of an "el Dorado" before them, to find nothing but disappointment, loss of property, vexation of mind, and consequent loss of health, and sometimes loss of life; all attributable to their own heedlessness, rushing headlong into a situation that nature, education, and habit, had totally unfitness them to occupy. Let not my western readers say, that I would discourage the settlement of the country; I always have, and always will, encourage the thousands who have, and who would better their situations, by emigrating from the old states to the west. But let every person disposed to emigrate, first seriously inquire whether he would better his situation or not. Let him lay open to himself, and more particularly to his wife and children, if such he have, a complete picture of the case; and don't let him forget to point out all the shades as well as bright spots in the picture. To a large portion of the new settlers of a new country, there is an indefinable charm in "making a beginning" in an uncultivated wilderness, and causing it to "blossom like the rose," that lends life a pleasure, and overbalances all difficulties.

Happiness, and not wealth, should be the aim of all; though no man should allow himself to be happy, without he is doing some good in the world—promoting the happiness of his fellow creatures, as well as himself. And to such dispositions only, will my present advice be availing; but to such, I hope it will avail so far as to make them inquire, when they are preparing to emigrate, whether they will not be likely to contribute to their own wealth and happiness, and that of their fellow creatures, by following some of my present advice.

I believe I could advise who would be likely to benefit themselves by emigration, but that would be advice thrown away. But I hope the advice to all emigrants, to bring with them some choice selections of stock, as the most profitable investment of money that they could make, will not be entirely lost.

Here is a vast country of the richest soil, not one-tenth part cultivated, forming a pasture for stock equal to your eastern clover fields, and susceptible of supporting immense herds, making tons of beef, butter, cheese, and pork, with small labor, and no interest upon the cost of valuable land. But we are lamentably deficient in stock; in half a dozen counties, there are not half a dozen pairs of Berkshire hogs. In fact, hereabouts is the *worst* breed of hogs I ever saw in any country. Sheep are of the coarse common kind, with no means of improving them; and although it is supposed by many, that sheep require a hilly country, I never saw sheep do better in any place than in this prairie country. But with a good breed, we also need a good breed of shepherd's dogs, for the prairie wolves are very troublesome. These are a species between the wolf and fox. They are somewhat

larger than the largest kind of fox, and "bold as the devil." At this season of the year, the sheep need constant watching in the day time, and close yard at night. There are none or very few big wolves, or other troublesome animals. Sheep and cattle are easily wintered on native grass, and the country is entirely free from disease among flocks. If, then, men grow wealthy upon stock farms that are worth \$100 an acre, what would we do here with the same kind of stock, where a man may get 80 acres for \$100; with an unbounded range of common for pasture? For dairy farms, a prairie country is remarkably fine; the native grass producing the richest kind of milk, and the fattest and richest beef I ever saw on grass alone. But of pork, I will only say that it cannot be made of the animals common to this country. Come, then, old and young, rich and poor, male and female, all who sincerely believe after mature reflection, that you can better your condition by emigration, and you shall find a wide and fertile country; but be sure you bring every one of you, an improved pig, or sheep, or cattle, or plow, or other implement, and that you cultivate the soil in an improved manner, and you will improve yourselves and neighbors.

And now I hope you may improve by the advice of your old friend,  
SOLON ROBINSON.  
Lake C. H. Ia., Aug. 20, 1840.

## THE SHORT HORNS AND HEREFORDS.

I have been for some years a subscriber to the Cultivator, and have been much instructed by the frequent notices of fine specimens of stock that have from time to time appeared in different numbers. Of late those notices, generally accompanied by a beautiful portrait, have become more frequent, and so far as I have had an opportunity of forming a judgment upon the plan, it is a good one—the youth particularly, are attracted by the picture, and are anxious to read about it, and see what it is. This generally creates a taste, and often enlarges it where it has been already created, and the results in both cases are highly beneficial.

The only objection I see to the present strife about cattle is, that the object mainly appears to be, who shall produce the *largest* specimen of the species. Other considerations appear to be generally merged in this. Whether or not this will be productive of good to the country, is a question it would be well for the community to examine closely. The opinion that the domestic animals of a country should be well suited to the usual and ordinary accommodations that can be conveniently had for them, meets with universal approbation. Now, if the great strife is, who shall produce the most extraordinary animal, of course extra food and accommodation of every kind must be provided for all the stock intended for competition, often to the manifest injury of the other stock of the same farmer—a very few "brag beasts" are kept, and often a large number of cattle that are not worthy of commendation.

Another matter of surprise, not only to me but to many others who derive their book knowledge of these matters from your paper, is the effort now apparently making both in England and America to elevate a different breed of cattle over the heads of the Durhams. I have particularly examined the account of the recently imported Herefords in the few last numbers of the Cultivator, and read the appended recommendations. I have never seen a sample of the Herefords, but have been familiar with their history as recorded by Mr. Youatt, in his work on "British Cattle;" and taking the text as laid down by him minutely, the recent discoveries of excellencies in these cattle, calculated to place them before the Durhams or Short Horns, have been matters of considerable surprise. This, to some of the advocates of the Herefords, may sound strange; but the strangeness of the observation will disappear, if they examine fully the chapters devoted by Mr. Youatt to the different breeds of cattle, in what may be now, strictly speaking, called their native country. If I understand the work referred to, the engravings in it are calculated for correct representations of the living animals; and, independent of the writings, they alone will be sufficient to satisfy any breeder that some of the allegations made of the superiorities of the recent importations of Herefords, if they resemble their progenitors, cannot be correct. If these statements are correct, and the appearance and test of the animals will prove it, then "improvement has been extended to them." If they have now properties that the breed in the time of Youatt's writings had not, it is a very important question to know how they have acquired those properties. Mr. Youatt says, "the Hereford cow is apparently a very inferior animal. Not only is she no milker, but even her *form* has been sacrificed by the breeder." These observations, or these assertions of positive facts, for such we must take them to be when from a standard work, do not read well, with the recent assertions of Mr. SOTHAM and Mr. BEMENT—the first of whom holds out the idea that they are *equal* to the Short Horn or Durham, and the latter that they are very good milkers and large. The latter gentleman, however, states that he has understood their qualities for milk have been "recently improved." How have they been improved in their quality for milk? Not certainly by breeding among themselves, for the trite and true axiom is settled, I believe, that "like will beget like." If then the Herefords in the time of Youatt, and for years before that, were "no milkers," how has the present improvement in that quality been effected? It must have been by the aid of some other breed, celebrated for their possession of that quality, and by whose aid also

the *form* of the Hereford cow has been so materially improved; for Mr. SOTHAM says, his are fine looking animals, and so says Mr. R. L. ALLEN, if I recollect right, who states that he saw them near Albany.

Now, Messrs. Editors, may it not be possible that we are at the commencement of another "stock mania," by which John Bull is about to realize thousands from the farmers of America, by selling them a compound breed of beautiful cattle, the essential qualities of which have been derived, and that very recently, from the Short Horns, that we have been making heavy importations of, for years back? Let any candid man answer the question to his own satisfaction. See what the Herefords were—hear what they are now, and then say if there is any impropriety in charging their admitted "recent improvement" in points in which the Short Horns excel, to an admixture with them. If such is the fact, and we have a number of the finest specimens of the Short Horns, cannot we, by judicious crossings and attention to these matters, form for ourselves, if I may be allowed the expression, a breed of grade cattle, without expending enormous sums to pay our transatlantic neighbors for doing work that we ought now to do for ourselves? The state of the times is such as to call loudly upon every man in every station of society to do his duty to himself and to his country; and I state it boldly, without fear of contradiction, that there is now abundant material in our own country, to retain by judicious breeding, the purity of the full bred Durham, and to commingle their perfections with the stock of our own country, in such a manner as to produce a race of animals equal to that of any other country under the sun, for dairy properties as well as for the butcher.

It appears to me that the community—for there in part the fault lies—lay too much stress upon the fact of "recent importation." The breed is then said not to have deteriorated, &c. &c. &c. Now we all know that the importation of stock has been carried on ever since the settlement of the country more or less, and we also know, if there is any truth in certificates, that we have hundreds of the best samples of horses, cattle and hogs, now in America, of different breeds and different families of the same breed, and admittedly enough to start with. Now let us see a little American spirit displayed, and a large amount of determination diffused among our farmers and others, to foster and encourage those who have expended their money and spent their time in procuring and rearing a superior breed of cattle and swine. The idea of deterioration, where proper attention is paid, is all ideal; the race of man, all will readily admit, has not deteriorated. Why then should cattle? Let our character as agriculturists and stock breeders be stamped with more *nationality*, and let us foster our own enterprising breeders. Let an *American Herd Book* be opened, and breeders be fully assured of the quality of the animals they purchase, and let them prefer purchasing from American breeders, and the race of cattle and swine will be no worse than those we are paying large prices for, and running the risk of carrying across the Atlantic. Respectfully yours,

J. H. HEPBURN

Jersey Shore, Lycoming co. Pa. August 12, 1840.

## Queries for the Best Methods of Cultivating Clay Land.

MESSRS. EDITORS—The intelligent and experienced cultivators of clay land, will confer an incalculable benefit on our agriculturists, by communicating through the columns of the Cultivator, the best method of preparing and managing this description of soil, for the different kinds of crops. The experience of England, Scotland, Ireland, New-England, New-York, and sections of the south and west, in this matter, collected from judicious and observing practical farmers, properly condensed and arranged, would be invaluable to the mass of our community. For my own part, though I have seen clay land worked more or less these two years, yet not having participated to any extent in the practical operations of the different modes, I am as much at a loss for the most approved methods, as if their cultivation had never come under my eye, and it is to solve these doubts, which I believe are nearly universal, that these queries are submitted.

1. When should green sward (each query applying solely and exclusively to hard clay land,) be plowed for wheat, barley, oats, peas, and roots, and how? Specify the time of year and condition as to moisture.

2. Should it be plowed a second or third time, and how and when? Specify the direction of plowing, if a second time or more; whether across the old furrows, and what depth at each plowing?

3. How many times should it be harrowed, and when?

4. Should the roller be used in all cases, and how?

5. At what time should the different crops be put in?

6. What is a proper rotation for clay land?

7. In a rotation, can clover alone be made a good crop, and how much seed should be sown to the acre?

8. Can good crops be got from stiff clay, without manure, for any or all the above mentioned grains and roots.

9. In laying down a permanent meadow, what grasses should be used, and what quantity of each kind?

10. Is plaster good for stiff clay—when should it be applied, how, and in what quantities, and how often?

11. Can corn ever be raised at a profit in clay, north of 42° 45', and how?

12. Should meadow lands ever be disturbed or broken up; and to sustain and renew their vigor, what are the best modes of treatment?

ERIK.

## "POPULAR ERRORS," No. 3.—CHESS.

MESSRS. EDITORS—I perceive in your August number, a letter from Mr. HULETT, of Byron, controverting the position assumed by me in a former communication, that the belief in the transmutation of grain was an error. I cannot say, since Mr. H. is a believer in the doctrine of the change of wheat into chess, that I regret the appearance of his paper in the Cultivator; as it may have occurred to some, that such an error is too palpable to be either common or "popular." His letter, however, will show there are yet some individuals who prefer relying on former prejudices, to thinking and observing for themselves, and consider ancient errors to be preferable to new truths.

As your remarks showed the fallacy of the "facts" of Mr. H., my object now is not so much a reply to that letter, as to show that the "notorious unbeliever, M. S. D." and those who think with him, are not without some reasons for their belief. As there is reason to imagine a renewal of the "chess controversy," would not be interesting to the majority of your readers, I think I may promise not to occupy your columns again in this way.

What is the question at issue? It is whether wheat can by any cause become so injured, and have its nature so changed, as to produce a plant in every respect dissimilar and unlike the parent seed. Opinion, prejudice, and appearances are in the affirmative; common sense, the law of nature, and fact, in the negative.

The advocates of transmutation are not agreed among themselves, as to the precise cause of this change, some attributing it to one thing, and some to another. The wheat shelled at harvesting and afterwards allowed to lie and germinate; the heads exposed on the outside of stacks to repeated sproutings and subsequent drying; plants trampled upon and mutilated by animals; plants with the tap root cut off, or broken off by freezing, and feeding off the tops of the wheat plant, have all been supposed capable of effecting this transmutation of wheat into chess.

It would be a curious and instructive chapter in the history of ignorance and credulity, to trace this and its kindred superstitions to their source; but for the task, I have at present neither time or inclination. It is enough to know that the doctrine of transmutation of grain, is doubtless as old as that of the transmutation of metals, and probably as well based and as rational. But the particular form in which it now appears, of the change of wheat into chess, seems comparatively modern. Almost every other grain has in former times been charged with this freak; it remained for the wiser moderns to discover that wheat was capable of this degeneracy.

What are the facts with regard to wheat and chess, irrespective of the question of transmutation, and respecting which all intelligent men are agreed? Wheat is known to the naturalist as belonging to a genus of plants named *Triticum*, and the species, *Triticum sativum*. There are many varieties, as the red, white, bearded, awnless, Egyptian, &c. &c., which occasionally run into each other, and thus originate new varieties, as the experiments of Le Conte demonstrate. It has remained a distinct plant, as we have the most conclusive evidence, for about 3,000 years, as kernels of this grain, taken from the folds of a mummy brought from Thebes to Paris, have germinated, and produced a beautiful wheat. Its grain is always produced on ears or spikes, and a deviation from this order of nature is unknown.

Chess is also known to the naturalist as a genus of plants called *Bromus*; and that species which is found in wheat, is named *Bromus secalinus*. Botanists enumerate between sixty and seventy species, several of which, the wheat chess as it is called being one of them, have been introduced from Europe, and naturalized in this country. It is a perfect plant, ripening its seeds, and producing true chess plants from those seeds; and consequently no hybrid or monstrosity, as some formerly contended. The head of chess is panicle or spreading like oats, or some of the grasses, and this invariably. No one has ever seen chess in spikes, or wheat panicle.

In all the controversy respecting chess, the burden of proof evidently lies with those who affirm the transmutation. It is enough for those who are the opponents of the theory, simply to deny the possibility of such a change, and wait for the proof. This has been done, and premiums have been offered for an instance of conversion of wheat into chess, or for a method that would effect such a transformation; but though there were enough to assert their ability to perform either, no instance of conversion, or method of transformation that would bear the test of a close investigation, has been discovered. The facts relied upon, have all turned out like those alluded to by you in your last number; and it may safely be averred, that as yet there is not an iota of evidence that a kernel of chess has ever grown on a wheat ear; that stalks of chess have grown from a kernel of wheat sown; or that wheat and chess have both grown from the same root. Here, opinions and appearances are both discredited; facts, those that will bear the most rigid examination and the closest scrutiny, are alone admissible.

Common sense pronounces that whatever is contrary to the known and established laws of nature, is necessarily absurd and false; nothing but a direct interposition of the Deity can alone prevent the justness of such a conclusion. How will the theory of transmutation endure such a test? To answer this so that all shall understand it, a few comparisons as illustrations of the

principle may be necessary, and I will endeavor the subjects shall be such as are familiar to most.

The genus *Quercus* or oak, and the genus *Pyrus* to which belong the apple and pear, are not more dissimilar in every respect than wheat and chess; yet who has ever deemed it probable that an injury, or any possible treatment of the white oak could convert it into a crab apple? The genus *Bos* or ox, and the genus *Equus* or horse, are not more strongly marked by nature's invariable stamp than wheat and chess; and we have just as good reason to believe that the freezing of a calf's tail in January or March, would effect such a change in its constitution as to transmute it into a magnificent donkey in August; or that because a colt is infested with lice and horse distemper in the spring, that he will turn out a full blood Short Horn in September, as that wheat in consequence of any injury can change to chess. The genus *Homo* or man, and the genus *Simia* or monkey, are certainly not more different in their characters than those of *Triticum* and *Bromus*. The man who believes in the transmutation of wheat into chess, has no right to laugh at the opinion of Lord Monboddo, that mankind were originally monkeys, some tribes having at this late period but just parted with their tails; for this opinion is in perfect accordance with his avowed belief; nor should he be surprised, if after a fit of sickness, or the amputation of a limb, he should find himself a veritable Ourang Outang, since such a result is a legitimate inference from his theory.

The doctrine of transmutation is as irreconcilable with facts, as it is repugnant to common sense. I have before alluded to the experiments made to change wheat into chess, made in consequence of the chess controversy in 1832-3, recorded in the 2d and 3d volumes of the *Genesee Farmer*, and the 14th volume of the *American Farmer*, and not a single instance could be given, where the experiments were properly conducted, in which chess was grown; and in no case whatever was there the slightest evidence furnished of transmutation. In *Ruffin's Farmers' Register* for 1833, is the result of an experiment commenced in the previous year, and designed by the experimenters, gentlemen of the first respectability, (including the editor of that Journal,) partly for, and partly against the theory, to fully and fairly test the doctrine. They say in their report—"Our design in the experiment was to bring into operation, every cause to which this change is usually ascribed by different persons, namely—1. Imperfect seed—2, thick sowing—3, a wet soil—4, a hard or unbroken soil—5, grazing or mowing." The whole series of experiments from beginning to end, were made with the greatest nicety, and the result may be told in a single line of the report: "Not a single head of cheat (chess) or spelt was produced." Defective, or mutilated, or frozen, and in all soils, the result was wheat and nothing else, and so it will always be.

The matter is apparently a plain one. The advocates of transmutation assert that proofs of the fact are as plenty as blackberries; they are invited to produce them; the attempt is made, and one after another they disappear before the Ithuriel touch of truth. Is there any difficulty in demonstrating that wheat grows from wheat, or chess from chess? Not in the least; or would there be any in showing that chess grows from wheat, if such was the fact, which every farmer is justified in asserting is not the case. I will add here, what is a most incontrovertible argument, that numerous instances are on record in which skillful and careful farmers by continued attention to weeding out chess, and sowing none in their seed, have freed their farms from this pest. This, according to the doctrine of transmutation, on a grain growing farm, would be an impossibility; but if, as I have shown, chess is a perfect plant, separate in character from all others, it can be exterminated, as charlock, or steinkrout, or any weed that grows from its seeds alone, certainly may be.

There is another argument which may with propriety be here adduced, the force of which cannot be denied or evaded by any one who admits the authenticity of its source; and this argument is derived from the scriptures. It may be said the scriptures were not given to teach men farming or philosophy. Admitted: yet every one is aware that the inspired penmen in illustrating and enforcing the great moral truths of their mission, frequently referred to natural truths, and particularly those connected with agriculture, and built their argument on these. If these natural facts to which they so undoubtably refer, are false, then their argument is defective and good for nothing; a result which few will allow.

Of the many passages which would be to my purpose I select three; and the first is from the first chapter of Genesis. "And the earth brought forth grass and herbs yielding seed after his kind; and the tree yielding fruit, whose seed is in itself after his kind." That is, grass yielding grass, corn yielding corn, wheat yielding wheat, chess yielding chess, oaks producing oaks, and apples producing apples, and that invariably; for "yielding seed after his kind," cannot possibly mean after any other kind. The next quotation may be found in 1st Corinthians, XV, chap.—"Thou fool, that which thou sowest is not quickened except it die. And that which thou sowest, thou sowest not that body which shall be, but bare grain; it may chance of wheat or some other grain. But God giveth it a body as it hath pleased him, and to every seed its own body." No man can read this passage in its connection, and not see, that if the doctrine of transmutation is true, Paul's argument for the resurrection is false. The third instance is from Galatians VI.

"Be not deceived, God is not mocked; for what a man soweth, that he shall also reap." This declaration affords the most perfect example of inconclusive reasoning in the English language, if transmutation is possible. How easy it would have been in this case for a Galatian to have retorted—"Ah, Paul, your argument is specious, but unsound. We know that wheat turns to chess after sowing, and therefore we do not reap what we sow; your argument, then based on this illustration respecting the consequences of our conduct, falls to the ground of itself." With what propriety could the man who sowed good seed in his field, and found tares had grown, assert that an enemy had been at work in his field, if the change of one grain or plant to another was possible? How could he know the result was not that of transmutation? If the doctrine of transmutation is true, Belsham might justly assert, as he has, that the Evangelists and Apostles were most illogical reasoners.

I still think that the consequence of this belief is most injurious to the farmer. No error is harmless; certainly not one like this. How often do we hear it said when farmers are urged to free their seed wheat from chess—"it does no good, chess never grows, and wheat turns to chess, so that nothing is gained by sowing clean seed." An error like this, and a popular one too, according to L. H.'s own showing, in a wheat growing district, must be productive of immense mischief. Conscious from my own observation in this country, that such is the case, has induced me to extend these remarks to a greater length than I intended, or you may think advisable.

M. S. D.

Genesec, August 18, 1840.

## RUST IN WHEAT, &amp;c.

MESSRS. EDITORS OF CULTIVATOR—In my hasty note of July 13th, published in the Cultivator this month, I gave no particulars—I had even forgot that I had written, until I read it in the paper, and also the excellent article upon the subject of rust in wheat. At the same time my attention was drawn to a new and singular theory of the cause of rust, published in the *Laporte paper*, which I have cut out and enclosed.\* You will see by that what an immense crop was on the ground in that single county; in a county too, that the land was purchased of the Indians in 1832.

Some of the best fields have been cut, but the grain is poor stuff. Some of it does not weight more than 30 lbs. to the bushel. I have correct information 150 miles south and 100 miles wide, east and west, all of which is a most fertile wheat soil, and immense crops were on the ground, and almost entirely blasted. There are, however, some good crops of spring wheat, though very little of it improved kinds.

This is certainly the greatest loss by rust that I was ever acquainted with. And in all this vast extent, I don't think there is a barberry bush. So that is not the cause. That the fly is the cause, as advanced by the *Laporte* writer is something new, and I must doubt the correctness of the theory.

But what is the cause? There is one fact worth noticing, that fields situated in places sheltered by woodland suffered least. And even by the side of fences, where in the fore part of summer the wheat was the most rank and luxuriant, it was much better than in the middle of the field. Why was it so? Was it not owing to the more rapid growth in June, of that which was the most backward in May? The weather was very "muggy," and the wheat grew uncommonly fast, so much so that the common expression among those not well acquainted with the theory of rust, said that "the stalks grew so fast that they burst and let out the juice and that turned to a red mould," &c.—and the same thing ap-

\* OUR WHEAT CROP.—This year is without a precedent in regard to the failure of our wheat crop. The committee which was selected to ascertain the probable number of acres of wheat growing in this county, reported that there were not less than 25,000. This estimate in my opinion, was not an exaggerated one. Now had this come in as well as we had anticipated or hoped, we should have had 500,000 bushels of wheat in our county; 100,000 bushels of this would have been sufficient for our seed and consumption, and the residue we might have disposed of. This at 50 cents per bushel, would have brought into our county \$200,000. This sum would have liquidated an immense amount of debt; but owing to the fly, army-worm and rust, our wheat has been measurably destroyed; and in lieu of our having five hundred thousand bushels, we shall not have one hundred thousand, and this will be of a very inferior quality. So it will readily be perceived that we have sustained a very considerable loss. It is natural for us to inquire into the cause of this stupendous failure. My views on this subject were published in the *Laporte Herald* last summer. I shall therefore merely reiterate them. That the fly was the cause of the rust in our wheat this year, I do not entertain a doubt. I have examined my own, and divers of my neighbors' stubble fields very faithfully, and the conclusion to which I have come in, that every spear of wheat in which the fly deposited its nit, last fall, was killed. They survived until the warm weather ensued in the spring, when they died. From this bunch of dead wheat, there sprang up new shoots or stalks, in like manner as they would come up around the trunk of a sapling which had been girdled. I have enumerated as many as 20 dead spears in one bunch. Now, for the wherewhore of the rust. These new shoots came forward with amazing rapidity; consequently they accumulate an undue quantity of sap; and the stalks having more juice than it was possible for them to retain, and the extension became so great, that the sap was forced out at the spricle or pores; the premature death of the stalk ensued and a consequent shrinking of the berry. This juice or sap being of a glutinous substance, adhered to the surface of the stalk and became a kind of rust.—*Laporte Whig*.

pears to be advanced by the writer of the enclosed article.

It is an important inquiry, "what is the cause of rust in wheat?" But a much more important inquiry, "what can be done to prevent it?"

More than a million of dollars is lost to the cultivators in this rusty district, by this calamity. If you or your correspondents can offer advice as to how to guard against a future loss, it will be highly acceptable.

Most respectfully your friend,

SOLON ROBINSON.

NOTE.—My young Berkshires continue to improve and excite as much curiosity as ever. It is a good evidence of a disposition among the people toward improvement, to see their curiosity excited by good stock when introduced to their notice.

Lake Court House, Ia. Aug. 20, 1840.

## Notes for the Month.

ARRIVAL.—The ship Philadelphia, arrived at New-York Sept. 25, having on board our correspondent, Mr. SOTHAM, and the importation of stock mentioned in Mr. S.'s letter in another part of this paper. The animals will remain at New-York for exhibition at the Fair of the American Institute, after which they will be brought up to this city.

MR. VAIL'S IMPORTATION.—It is due to the beautiful animal, and to the breeder from whom she was procured, to say that in the portrait given in the last Cultivator of Mr. Vail's heifer "Duchess," the artist has by no means done her justice—an error which we hope to remedy, by giving a correct likeness hereafter.

FAIR AT ROCHESTER.—The Genesee Agricultural Society will hold their first fair at Rochester, on the 7th and 8th of this month—the exhibition, &c. on the first day, and a public sale of stock, &c. on the last day. The Mechanic's Association of Western New-York, will hold their 2d fair at Rochester on the same day. This union of effort by the Farmers and Mechanics of the Genesee Valley, can hardly fail to bring forth an exhibition of the products of the soil and the shop, creditable alike to the city and the skill of her artizans, and the husbandmen of Monroe. The notice sent for the last Cultivator, was received too late for insertion.

CATTLE SHOW AND FAIR AT CLEVELAND.—The annual Cattle Show and Fair of the Cuyahoga Agricultural Society will be held at Cleveland on the 21st and 22d days of the present month. It would afford us great pleasure to accept the polite invitation of the Society to attend its exhibition, but circumstances are such as not to permit the indulgence of the hope that we shall be able to enjoy that pleasure. The Society respectfully invite patentees and manufacturers of Agricultural implements, to send specimens of their articles to be exhibited at the Fair. All such articles will be examined and reported on, by a committee appointed for that purpose.

AMERICAN INSTITUTE.—The Agricultural Committee of this institution have given notice that a *Plowing Exhibition* will take place at Newark, N. J. on the afternoon of the 9th inst. Plows sent to the Fair for competition, will be sent to the plowing ground free of expense. The best plow will receive a premium, a silver cup. An exhibition of pure blooded cattle, horses, sheep and swine, will be held at Niblo's Garden in New York, on the 14th; and a public sale at Tattersall's on the 15th instant, for the disposal of all stock which may be sent to the Fair for sale. Premiums of a gold medal or silver cup of the value of \$15, will be awarded for the best stud horse, best mare, best colt, best bull, best cow, best bull calf or heifer—for the best jack, a cup of the value of \$10—for the best ram, ewe, and lamb, and for the best boar, sow and shoat, each a cup of the value of \$8. The Horticultural Exhibition will be open on the 13th, 14th, and 15th.

ANOTHER SALE OF BERKSHIRES.—Our neighbor Mr. C. N. BEMENT, of the Three Hills Farm, has lately sold some of his breeding stock of Berkshires, among which was the imported boar "Duke of Leeds," alias "Sam Slick," to H. S. KELLOGG, Esq. of Cincinnati. This boar was imported in 1838, when a pig of only five weeks old, and weighed when he left this city, over 500 pounds, and only in ordinary condition. He has great length of body, short legs, fine hams, deep and thick in the shoulders, and small head and ears in comparison with his body.

SILK CULTURE.—We make the following extract from a letter lately received from Mr. R. SINCLAIR, Sen. the well known proprietor of the "Clairmont Nurseries," near Baltimore, Md.—"I have raised seventy-five bushels of cocoons this summer, by way of first trial, and hope to do better next season, although what few worms I had did very well. I think I have about seventy ounces of good eggs to start with next year. It is a new business, but quite encouraging. I think the Rev. Mr. McLean's estimate, of cost of making a pound of silk, will prove to be about correct."

A PLOW FOR THE PRAIRIES.—A letter from E. W. BREWSTER, Esq. Elgin, Ill., says—"The plow used on the broad plains of our fertile west, is a clumsy, unmanageable utensil; the light graceful screw is by a few moments' use, converted into a heavy cumbersome wedge. I wish to direct the attention of our ingenious mechanics to this subject, and to ask if any of them can furnish the Valley of the Mississippi with a plow which will,

be in operation, free itself from the adhesive particles of our too rich prairies? And in the name of the Far West, I promise him a rich pecuniary reward and high rank on the list of public benefactors."

HARPER'S SCHOOL DISTRICT LIBRARY.—The publishers have given notice that the 3d series of the District School Library, consisting of fifty volumes, will be issued in a few weeks—in season to be forwarded to those who may order it before the close of navigation.

(P) There will be a trial of Plows at Worcester, Mass., on the 13th inst. \$100 will be awarded for the best plow which turns the furrow slice flat, and \$75 for the best plow which lays it at an angle of 45 degrees—open to all parts of the country.

LARGE SHEEP.—Thos. Carpenter of Hull Farm, Oxfordshire, England, recently slaughtered a Cotswold ewe, which weighed 59 lbs. per quarter.

CROPS IN KENTUCKY.—"The corn crop in Jefferson county," says a letter from Mr. D. S. CHAMBERS, of Sept. 2, "is unusually promising, which I understand is generally the case throughout the state. I have cultivated this year five or six acres of the sugar beet, which look very fine, and should they equal my expectations, I will give you the result."

THE ARMY WORM.—This pest is making frightful ravages in the cotton fields of the lower Mississippi. To-day a plantation will be free from them; to-morrow the crop is totally destroyed. Their origin and their end appears alike a mystery to the planter; but the destruction they cause is as complete as it is sudden.

Eggs.—Two thousand years ago it was well known that long eggs when hatched produced males, and round eggs females. We see the same thing has been rediscovered, and claimed as an important addition to modern facts. Solomon was not far from right when he said there was nothing new under the sun.

SAVE YOUR FIRE WOOD.—Mr. Madison, in his notices of agriculture, says—"Of all the errors in our rural economy, none perhaps is so much to be regretted, because none so difficult to be repaired as the excessive and injudicious destruction of fire wood. It seems never to have occurred, that the fund was exhaustible, and that a crop of trees could not be raised as quick as one of wheat or corn."

A TRUTH.—The farmer who consumes all he raises, and runs in debt for what he buys, is certainly in a bad way; and a nation that pursues the same course must expect to arrive at the same result, namely, bankruptcy.

INTRODUCTION OF THE LITTLE SPINNING WHEEL AND POTATO.—The Rev. Mr. Morrison of Peterborough, N. H. has lately delivered a centennial sermon at that place; it being now 100 years since the Scotch-Irish settlers of that town, Londonderry, Antrim, &c. commenced the settlement on their arrival from Europe. It contains many interesting particulars of that strong minded, able bodied race of men, and their descendants, who still people that fertile district of New-Hampshire. According to Dr. Belknap, these emigrants brought with them the first foot spinning wheels that were used in this country, and the first potatoes ever grown in New-England, which were thence called Irish potatoes. The potato has triumphed over all opposition and prejudice, and as an article of food, has taken place next to the cereal plants; but the little wheel, we are sorry to say, has become too unfashionable among our fair country-women, and has been compelled to give way to the piano, a change in general most injudicious.

MICE.—Mr. McDonald of the Hebrides, has found that wild or common mint, put in places frequented by mice, such as mows of grain, granaries, &c. or the leaves laid over cheese in dares, is an effectual preventive against the attacks of mice.

A GOOD CUSTOM.—In the Duchy of Gotha in Germany, a rule prevails by which every new married couple is bound to plant two fruit trees, and the inhabitants of the parish are made answerable for their preservation. This Duchy is noted for the abundance and excellence of its fruit.

SAW DUST.—According to Gov. HILL, the Shakers at Canterbury "make much use of saw dust as litter for hogs, horses, cows, &c. It is very fine for horse bedding; half a bushel thrown at night under a horse will give him an easy bed, and leave him in the morning in a situation to be cleaned with little trouble. The saw dust is an excellent foundation for compost manure."

GOOD HENS.—Mr. E. A. Colman of Chelsea, Mass. had from eight hens, from July 9, to August 29, seven weeks, 293 eggs.

PROLIFIC.—The wife of Mr. G. K. Norris, of Monmouth, Maine, was safely delivered of four living children, 3 girls and a boy, on the 5th of Sept. 1840. So says the Maine Cultivator.

RAINING.—In answer to the inquiry of Mr. GOODELL in our last number, Mr. JAMES PURCELL of New-Lebanon, informs us that from an experience of 30 years in ditching and draining, both in this country and Ireland, he is convinced that he can drain Mr. G.'s land "to his liking." He says he has just "brushed and ditched a swamp of ten acres for Mr. Wm. Sherman of New-Lebanon, which was so wet and mirey that cattle sunk into it so deep as to require assistance to get out, and I could put down a pole 10 or 12 feet with ease. I brushed it first, and then cut ditches four feet wide and three feet deep. It was finished in the fall, and in the spring following he could take a yoke of cattle and loaded cart through any part of it, and he intends to plow and put a crop in it next spring." Mr. Purcell may be addressed at New-Lebanon, Col. co. N. Y.

## TO AGENTS.

In the Cultivator of the last and present month, bills have been enclosed to all our agents, to which we respectfully solicit their immediate attention, as it is highly necessary, and of great importance to us, that all accounts for the current volume should be closed up before the end of the year.

(P) Subscribers in Monroe county, who are still indebted, will please make payment to SAMUEL HAMILTON, No. 8 Buffalo-st. Rochester.

## TO CORRESPONDENTS.

"VERMONT BEE HIVE."—Mr. WEEKS, the inventor of this bee hive, and author of the excellent "Manual on the Management of Bees," has sent us one of his hives of the full size, which we shall keep at the Cultivator office for public inspection. His letter accompanying the hive, will be published next month.

NEW WORKS.—Among the matter in type for this No. but omitted for want of room, are notices of Dr. JACKSON'S Geological Report of Rhode Island, and Mr. PEDDER'S "Frank, or Dialogues between Father and Son," on agricultural subjects.

THE CHESS CONTROVERSY.—Perhaps we owe an apology to our readers for occupying so much space with this question; and to prevent a continuance of the discussion, we give this early notice that after the publication of some two or three articles now on hand, we must decline farther occupying our columns with it, at least until such times as some new proofs, and more cogent ones, of the doctrine of transmutation are discovered.

THE BARBERRY.—We have received several articles in relation to the disputed question of the effects of the barberry on wheat and other grains. We shall make room for one or two more, after which we trust our friends will excuse us if we close the discussion.

(P) Several communications, already in type, are omitted for want of room.

## Back Volumes of the Cultivator.

All the published volumes of the Cultivator can be furnished to new subscribers. The price is, for vols. 1, 2, 3 and 4, 50 cents each—vols. 5 and 6, \$1.00 each. They are handsomely done up in printed covers, and can be sent by mail at the expense of newspaper postage.

## The Market—New-York, Sept. 25.

FLOUR.—Since the arrival of the Queen, Flour in this market has declined. Sales are now made at \$4.75 a barrel. Flour has also declined in the principal markets on the sea coast, though prices at the last accounts were much higher, say twenty-five per cent, than in July last. We give the rate current this week:—

Georgetown, Sept. 21, \$5 00 Baltimore, Sept. 21, \$5 12 Richmond, Sept. 22, 5 25 Alexandria, Sept. 22, 5 00 Charleston, Sept. 19, 6 00 Savannah, Sept. 18, 6 62

WOOL.—The demand for American Fleece, continues good and prices are more firm. Am. Sax. 40 a 42, Am. Mer. fl. 30 a 35, Am. 4 3 blood, 27 a 30, Com. to 4 bd. 23 a 25.

COTTON.—There has been no material movement in this market; buyers seek a reduction from present rates. Sales have been made at 8 a 10 1/2 for Upland and Florida, 9 a 11 1/2 for Mobile, 9 a 11 for New-Orleans.

ASHES.—There is a fair demand for both descriptions of this article at \$5 for Pots, and \$5.25 for Pearls.

HEMP.—The stock of Russia has been increased, demand limited, and prices falling.

## CONTENTS OF THIS NUMBER.

Among the Farmers, No. 2—Notices of Farming in Central New-York, .....	149
Cows, noise of good milkers—Prospects of the Silk Culture—Irrigation, .....	150
Saving Seeds—Value of the Roller—The Natural Sciences—Wooden Underdrains—Myrtle Soap, .....	151
Work for the Month—Barilla, or Soap boiler's Waste—The Sugar Beet—Renovating Grass Lands—Concerning Buildings—Bees, .....	152
The Grases—Wheat—Thorn Hedges—Singular worm—The Great West—The Mulberry—Hessian Fly—Mr. Bates' Short Horns, .....	153
Farming in Germany—Sheep—Comparative Value of Articles used as Food—Nutritive Qualities of Sugar—Salt for Animals, .....	154
Dictionary of Terms used in Agriculture—A Woman worth having, .....	155
Foreign Notices—Short Horn bull Clement—Yorkshire Agricultural Society—Agricultural Schools—Agricultural Pursuits—Protection for Sheep—Kentish Sheep—Berkshire Hogs—Agricultural Museums—Crops in England—Lamb Fairs—Death of Dr. Perrine, .....	156
"Beat this if you can"—Advantages of Draining, .....	157
Notes of a Traveler, .....	158
Rohan Potatoes, Striped Bug, &c.—The Science of Agriculture—Clover Seed Machine, .....	159
"The full-bred Berkshires"—Whent vs. Chess—Rules in Sowing Wheat—Inquiry, .....	160
Mr. Kendall's Cow Julia—Letter from England—Messrs. Harland's Swine—Carpenter's Harvesting Machine—Description of a Cotswold Buck—Grubs in Peach Trees—All the Luck, .....	161
To Western Emigrants—The Short Horns and Herefords—Querries for the best method of cultivating Clay Lands, .....	162
Popular Errors, No 3—Chess—Rust in Wheat, .....	163
Notes for the Month, Notices, &c. .....	164

## ILLUSTRATIONS.

Fig. 83.—"Beat this if you can," .....	157
Fig. 84.—Portrait of Mr. Kendall's Julia, .....	161